



MINNESOTA ENVIRONMENTAL QUALITY BOARD

Wednesday, April 15, 2015

Meeting Location: MPCA Board Room

520 Lafayette Road North

St. Paul, Minnesota 55155

1:00 p.m. – 4:00 p.m.

****ATTENTION****

The main entrance to our building will be closed for lobby construction. An alternate (secure) entrance will be located on the west side of the building by the cafeteria from 6:00 a.m. to 5:00 p.m. Please see attached maps for building entrance and visitor parking.

SILICA SAND SUBCOMMITTEE AGENDA

The purpose of this meeting is to update the EQB Silica Sand Subcommittee on the status of the multi-agency rulemakings on silica sand. The Agencies have concluded the year-long process of working with the Silica Sand Rulemaking Advisory Panel (SSRAP) to get input on the subject of the rules, and are moving into completing draft rule language and writing Statements of Need of Reasonableness (SONARs) to support the rules as they are proposed. This meeting includes a listening session for the public to provide input and comments on the draft rules as last shared with the Advisory Panel.

I. Introductions

II. Briefing on the wrap-up and final meetings of the SSRAP.

Presenter: Erik Dahl – EQB
(651-757-2346)

III. Update on EQB –Environmental Review Thresholds Rule

Presenter: Erik Dahl – EQB
(651-757-2346)

IV. Update on MPCA – Air Emissions Rule

Presenter: Catherine Neuschler
(651-757-2607)

V. Update on DNR – Mine Reclamation Rule

Presenter: Heather Arends
(651-259-5376)

VI. Public Comment

VII. Adjourn



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SILICA SAND SUBCOMMITTEE ANNOTATED AGENDA

The purpose of this meeting is to update the EQB Silica Sand Subcommittee on the status of the multi-agency rulemakings on silica sand. The Agencies have concluded the year-long process of working with the Silica Sand Rulemaking Advisory Panel (SSRAP) to get input on the subject of the rules, and are moving into completing draft rule language. This meeting includes a listening session for the public to provide input and comments on the draft rules as last shared with the Advisory Panel.

I. Introductions

II. Presentation and discussion of SSRAP outcomes and process.

Presenter: EQB

Issue before the Board: N/A

Background:

The 2013 Minnesota Legislature passed and Governor Mark Dayton signed new legislation that directed the Department of Natural Resources (MNDNR), the Pollution Control Agency (MPCA) and the Environmental Quality Board (EQB) to develop new state rules on silica sand (often called “frac sand”). Rulemaking in Minnesota follows procedures outlined in the Minnesota Administrative Procedures Act (Minn. Stat., Ch. 14).

In fall of 2013, the Board heard testimony requesting the formation of a rulemaking advisory panel. Similar requests were received by the agencies during the initial Request for Comments. To support and broaden the public participation process for the silica sand rulemaking, the agencies created a Silica Sand Rule Advisory Panel (SSRAP) consisting of members from the public, local governments, and industry. The panel provided input to the MPCA, DNR, and EQB regarding the development of rules regulating silica sand operations in Minnesota.

The panel had its first meeting in January 2014, and continued to meet monthly through February 2015. The working meetings of the panel were all open to the public for observation. The meetings were held in Oronoco and all meetings were broadcast and archived on WebEx.

III. Update on EQB –Environmental Review Thresholds Rule

Presenter: Erik Dahl – EQB
(651-757-2346)

Materials enclosed:

- Preliminary Draft (2/11/2015) of EQB Silica Sand Environmental Review Rule (also available on the SSRAP website)

Issue before the Board: N/A

Background:

The 2013 legislation established interim thresholds for environmental review of silica sand related operations and directed EQB to develop new state rules for environmental review of silica sand projects.

The 2013 legislation (Laws of Minnesota 2013, Chapter 114, Article 4, Section 105) states:

(d) The Environmental Quality Board shall amend its rules for environmental review, adopted under Minnesota Statutes, chapter 116D, for silica sand mining and processing to take into account the increased activity in the state and concerns over the size of specific operations. The Environmental Quality Board shall consider whether the requirements of Minnesota Statutes, section 116C.991, should remain part of the environmental review requirements for silica sand and whether the requirements should be different for different geographic areas of the state. The rulemaking is exempt from Minnesota Statutes, section 14.125.

The interim mandatory categories for silica sand projects are listed under Minn. Stat. § 116.991 and were established as provided by [Laws of Minnesota 2013, chapter 114, article 4, section 105](#). The interim requirements became effective on July 1, 2013:

[116C.991] ENVIRONMENTAL REVIEW; SILICA SAND PROJECTS.

(a) Until two years after the effective date of this section, an environmental assessment worksheet must be prepared for any silica sand project that meets or exceeds the following thresholds, unless the project meets or exceeds the thresholds for an environmental impact statement under rules of the Environmental Quality Board and an environmental impact statement must be prepared:

(1) excavates 20 or more acres of land to a mean depth of ten feet or more during its existence. The local government is the responsible governmental unit; or

(2) is designed to store or is capable of storing more than 7,500 tons of silica sand or has an annual throughput of more than 200,000 tons of silica sand and is not required to receive a permit from the Pollution Control Agency. The Pollution Control Agency is the responsible governmental unit.

(b) In addition to the contents required under statute and rule, an environmental assessment worksheet completed according to this section must include:

(1) a hydrogeologic investigation assessing potential groundwater and surface water effects and geologic conditions that could create an increased risk of potentially significant effects on groundwater and surface water;

(2) for a project with the potential to require a groundwater appropriation permit from the commissioner of natural resources, an assessment of the water resources available for appropriation;

(3) an air quality impact assessment that includes an assessment of the potential effects from airborne particulates and dust;

- (4) a traffic impact analysis, including documentation of existing transportation systems, analysis of the potential effects of the project on transportation, and mitigation measures to eliminate or minimize adverse impacts;
- (5) an assessment of compatibility of the project with other existing uses; and
- (6) mitigation measures that could eliminate or minimize any adverse environmental effects for the project.

IV. Update on MPCA – Air Emissions Rule

Presenter: Catherine Neuschler
(651-757-2607)

Materials enclosed:

- Preliminary Draft (11/2014) of MPCA Silica Sand Air Emissions Rule

Issue before the Board: N/A

Background:

The 2013 legislation directed the MPCA to develop rules to control particulate emissions from silica sand projects – both mining and processing facilities. The draft rules, discussed with the Advisory Panel, envision requiring air permits of certain sources, and also requiring those sources to conduct air monitoring of particulates and silica and to control particulate emissions through specific operational controls or practices.

V. Update on DNR – Mine Reclamation Rule

Presenter: Heather Arends – State Program Administrator Director
(651-259-5376)

Materials enclosed:

- Preliminary Draft (3/3/2015) of DNR Silica Sand Reclamation Rule

Issue before the Board: N/A

Background:

The 2013 legislation directed the DNR to develop rules on the reclamation of silica sand mines. Reclamation is a process that begins with mine planning, continues through mine operation, and continues until a parcel of land has been reclaimed into environmentally stable and safe post-mining land use. The preliminary draft silica sand reclamation rule language reflects state policy related to current mineland reclamation rules as well as the on-going discussions with Advisory Panel. The resulting preliminary draft rules address having state-wide environmental standards, disclosure on company structure and environmental compliance record, reclamation plan requirements, financial assurance, right of inspections, and administrative procedure.

It is important to note that the DNR was given the legislative authority to adopt rules on the reclamation of silica sand mines in Laws of Minnesota 2013, Chapter 114, Article 4, Section 105(b):

“The commissioner of natural resources shall adopt rules pertaining to the reclamation of silica sand mines. The rulemaking is exempt from Minnesota Statutes, section 14.125.”

However, the statutory authority to implement the rules and regulate non-metallic mineland reclamation remain with local governments per *Minn. Stat.* section (§) 394.25:

*“Official controls may also be applied to wetlands preservation, open space, parks, sewage disposal, protection of groundwater, protection of floodplains as defined in section [103F.111](#), protection of wild, scenic, or recreational rivers as defined in sections [103F.311](#) and [103F.315](#), protection of slope, soils, unconsolidated materials or bedrock from potentially damaging development, preservation of forests, woodlands and essential wildlife habitat, **reclamation of nonmetallic mining lands**; protection and encouragement of access to direct sunlight for solar energy systems as defined in section [216C.06, subdivision 17](#); and the preservation of agricultural lands.”*

VI. Public Comment

VII. Adjourn

Red = statutory definition

Green = administrative rule definition

Blue = new silica sand definitions

Preliminary EQB EAW Thresholds:

- A. For development of a silica sand project for the extraction or mining of silica-rich sandstones that will result in 20 or more acres of mine area during the project's existence, **the local government unit is the RGU.**
- B. For development of a silica sand facility, under subitems (1) and (2), **the PCA is the RGU** for the following:
 - (1) a silica sand facility designed to produce an annual throughput of 200,000 tons or more of silica sand or designed to store 7,500 tons or more of silica sand; or
 - (2) the expansion of a silica sand facility designed to produce an annual throughput of 200,000 tons or more of silica sand by a 50 percent or more increase in annual throughput.
- C. For development of a silica sand project for the extraction or mining of silica-rich sandstones, that requires a DNR trout stream setback permit and will result in fifteen or more acres of mine area during the project's existence, **the DNR is the RGU.**
- D. For development of a silica sand project for the extraction or mining of silica-rich sandstone that will result in two or more acres of mine area in a forested or other naturally vegetated land in a sensitive shoreland area, or ten (10) or more acres of mine area, during its existence, in a forested or other naturally vegetated land in a non-sensitive shoreland area, **the local government unit is the RGU.**

Preliminary EQB EIS Thresholds:

- A. For development of a silica sand project for the extraction or mining of silica-rich sandstones that will result in 80 or more acres of mine area during the project's existence, **the local government unit is the RGU.**
- B. For development of an underground silica sand mine, **the local government unit is the RGU.**

Preliminary EQB Definitions:

Subp. 1b. Aggregate. "Aggregate" means sediment or crushed rock derived from bedrock that such as to dolostone, limestone, granite, basalt, and rhyolite. Aggregate does not include silica-rich sandstones.

Subp. 46a. Mine area. "Mine area" means the surface area of land from which material is removed in connection with the extraction or mining of silica sand. The lands, in combination with mining operations, from which: material is deposited; silica sand facilities are located; water reservoirs used in the mining process

are located or; auxiliary lands that are used or intended to be used in a particular mining operation are located. Mine area includes all contiguous or adjacent properties that are under control of the same person. Mine area does not include access roads.

Subp. 47b. Mining. "Mining" as used in parts 4410.4300, subpart 12a and 4410.4400, subpart 9a, has the meaning given in [Minnesota Statutes, section 116C.99, subdivision 1, paragraph \(b\)](#).

Subp. 54a. Open Storage Pile. "Open Storage Pile" means any unenclosed storage area that is used to store silica sand.

Subp. 82a. Silica-rich sandstones. "Silica-rich sandstones" means earthen material consisting of quartzose sedimentary rock of mostly sand-sized particles. Quartzose is a physical characteristic of a sedimentary rock formation where greater than 90 percent of the constituent rock particles consist of pure quartz. Examples of silica-rich sandstones include the formally recognized and described quartzose sandstones defined in RI-65 Paleozoic Stratigraphic Nomenclature for Minnesota, Minnesota Geologic Survey, Report of Investigations (2008). The report is incorporated by reference, is not subject to frequent change, and is available through the Minitex interlibrary loan system.

Subp. 82b. Silica sand. "Silica sand" has the meaning given in [Minnesota Statutes, section 116C.99, subdivision 1](#).

Subp. 82c. Silica sand facility. "Silica sand facility" means any facility that:

- (1) Operates [silica sand processing equipment](#), or
- (2) Operates equipment used for [transloading](#), or
- (3) Establishes and maintains an [open storage pile](#), or
- (4) Operates a [silica sand storage system](#).

Subp. 82d. Silica sand processing equipment. "Silica sand processing equipment" means machinery used to reduce the size of silica sand or to separate silica sand from [reclamation material](#), and the equipment used to convey silica sand to or remove silica sand and [reclamation material](#) from the machinery. Examples of silica sand processing equipment include: breakers, washers, filters, crushers, screens, and conveyors.

Subp. 82e. Silica sand project. "Silica sand project" has the meaning given in [Minnesota Statutes, section 116C.99, subdivision 1](#).

Subp. 82f. Silica sand reclamation materials. "Silica sand reclamation material" means earthen material, such as, soil, surface overburden or sediment, that remains after processing and is not part of the finished product.

Subp. 82g. Silica sand storage system. "Silica sand storage system" means any facility used to store silica sand except for [open storage piles](#).

Subp. 89b. Throughput. "Throughput" as used in part 4410.4300, subpart 12a, item B means the number of tons of silica sand received, plus the number of tons of silica sand shipped, divided by two, determined on the

basis of an average year. An average year is determined by averaging the actual receipts and anticipated receipts and shipments.

Subp. 89c. Transloading. “Transloading” means the process of transferring silica sand from one truck, trailer, railcar or barge to another truck, trailer railcar or barge.

Subp. 89d. Underground silica sand mine. “Underground silica sand mine” means below-surface mining for silica sand. Examples are excavation of adits, shafts, drifts, and stopes. Access is often via horizontal drifts or gradual declines into the earth to reach underground, in-place silica sand deposits. Mining is typically by room and pillar or open stope mining methods.

Subp. 89e. Vehicle. ~~“Vehicle” as used subpart 89, means truck, trailer, railcar, or barge.~~

DRAFT 2/11/2015

Pollution Control Agency

Draft Proposed Rules Governing Emissions from Silica Sand Projects

7007.0250 SOURCES REQUIRED TO OBTAIN A STATE PERMIT.

Subp. 9. **Silica Sand.** Owners and operators of a silica sand facility, as defined in section [7011.0200](#), must obtain a permit under this part. The permit obtained shall not be a registration permit under parts [7007.1110](#) to [7007.1130](#), a capped permit under parts [7007.1140](#) to [7007.1148](#), or a general permit under part [7007.1100](#).

7011.0200 DEFINITIONS.

Subpart 1. **Scope.** As used in parts 7011.0200 to 7011.0275, the following words shall have the meanings defined herein.

Subp. 2. **Design controlled PM emissions rate.** “Design controlled PM emissions rate” means the theoretical particulate matter (PM) emissions in tons that would result from the operation of a control device at its design emissions rate (grains per dry standard cubic foot (gr/dscf)), multiplied by the maximum design flow rate (dry standard cubic feet per minute (dscf/min)), multiplied by 60 (minutes per hour (min/hr)), multiplied by 8,760 (hours per year (hr/yr)), divided by 14,000,000 (grains per ton (gr/ton)).

Subp. 3. **Mechanical vent.** “Mechanical vent” means any vent that uses a powered mechanical drive (machine) to induce air flow.

Subp. 4. **Open storage pile.** “Open storage pile” means any unenclosed storage area that is used to store silica sand

Subp. 5. **Operating day.** “Operating day” means a 24-hour period between 12 midnight and the following midnight during which silica sand is prepared or processed at any time by the owner or operator. It is not necessary that silica sand be prepared or processed the entire 24-hour period.

Subp. 6. **Pneumatic silica sand-cleaning equipment.** “Pneumatic silica sand-cleaning equipment” means any equipment which separates silica sand by size or separates silica sand from silica sand reclamation material by application of air stream(s).

Subp. 7. **Respirable crystalline silica.** “Respirable crystalline silica” means airborne particles of quartz, cristobalite, and/or tridymite and whose measurement is determined by a sampling device designed to meet the characteristics for respirable-particle-size-selective samplers specified in the International Organization for Standardization (ISO) 7708:1995: Air Quality—Particle Size Fraction Definitions for Health-Related Sampling, as amended.

Subp. 8. **Silica sand.** “Silica Sand” means an earthen material derived from silica-rich sandstones.

Subp. 9 **Silica-rich sandstone.** “Silica-rich sandstone” means an earthen material consisting of quartzose sedimentary rock of mostly sand-sized particles. Quartzose is a physical characteristic of a sedimentary rock formation where greater than 90% of the constituent rock particles consist of pure quartz. Silica-rich sandstones include but are not limited to the formally recognized quartzose sandstones defined by the Minnesota Geologic Survey Report of Investigation 65: Paleozoic Stratigraphic Nomenclature for Minnesota, 2008.

Subp. 10. **Silica sand facility.** “Silica sand facility” means any facility that operates silica sand processing equipment; equipment used for transloading; operates a silica sand storage system; or establishes and maintains an open storage pile.

Subp. 11. **Silica sand processing equipment.** “Silica sand processing equipment” means any machinery used to reduce the size of silica sand or to separate silica sand from rejects, and the equipment used to convey silica sand to or remove silica sand and rejects from the machinery. This includes, but is not limited to, breakers, crushers, screens, and conveyor belts.

Subp. 12. **Silica sand rejects.** “Silica sand rejects” means earthen material, such as overburden or sediment, that remains after processing and is not part of the finished product.

Subp. 13. **Silica sand storage system.** “Silica sand storage system” means any facility used to store silica sand except for open storage piles.

Subp. 14. **Thermal dryer.** “Thermal dryer” means any facility in which the moisture content of silica sand is reduced by either contact with a heated gas stream which is exhausted to the atmosphere or through indirect heating of the silica sand through contact with a heated heat transfer medium.

Subp. 15. **Transloading.** “Transloading” means the process of transferring silica sand from one vehicle to another vehicle. Silica sand may be stored or handled before exchange to a different vehicle.

Subp. 16. **Vehicle.** “Vehicle” means truck, railcar, or barge

Subp. 17. **Wheel wash.** “Wheel wash ” means equipment that utilizes a bath or spray of water for the purpose of cleaning mud, soil, and rock from the tires and undercarriage of vehicles..

7011.0205 APPLICABILITY.

Subpart 1. **Applicability.** The owner or operator of a silica sand facility with a throughput of more than 200 tons of silica sand per day shall comply with parts 7011.0200 to 7011.0275.

Subp. 2 Permit Required.

- A. New silica sand facilities must obtain a permit as described in Minn. R. 7007.0250, subp. <9> prior to commencing construction.
- B. Existing silica sand facilities must apply for a permit as described in Minn. R. 7007.0250, subp. <9> within <(X)> years after publication date>.

7011.0210 STANDARDS FOR THERMAL DRYERS.

Subpart 1. **Standards for thermal dryers.** This subpart applies to each thermal dryer at a silica sand processing facility. Each thermal dryer must meet the stack emission limits and compliance requirements of this part within 180 days after initial startup or <X year(s) after publication date>, whichever comes later.

- A. The owner or operator must not cause to be emitted into the atmosphere from the thermal dryer any gases that contain PM in excess of < placeholder > grains per dry standard cubic feet (gr/dscf); and
- B. The owner or operator must not cause to be emitted into the atmosphere from the thermal dryer any gases that exhibit < placeholder > percent opacity or greater.
- C. The owner or operator shall prepare a fenceline monitoring plan described in parts 7011.0245 and 7011.0255.
- D. The monitoring period may cease after a period of no less than three years.
- E. Written authorization from the commissioner is required to cease monitoring.

7011.0215 STANDARDS FOR PNEUMATIC SILICA SAND-CLEANING EQUIPMENT.

Subpart 1. **Standards for pneumatic silica sand-cleaning equipment.** Pneumatic silica sand-cleaning equipment must meet the stack emission limits and compliance requirements of this part within 180 days after initial startup or <X year(s) after publication date>, whichever comes later.

- A. The owner or operator must not cause to be emitted into the atmosphere from the pneumatic silica sand-cleaning equipment any gases that contain PM in excess of <placeholder> gr/dscf; and
- B. The owner or operator must not cause to be emitted into the atmosphere from the pneumatic silica sand-cleaning equipment any gases that exhibit greater than <placeholder> percent opacity.
- C. The owner or operator shall prepare a fenceline monitoring plan described in part 7011.0245 and 7011.0255.
- D. The monitoring period may cease after a period of no less than three years.
- E. Written authorization from the commissioner is required to cease monitoring.

7011.0220 STANDARDS FOR SILICA SAND PROCESSING AND CONVEYING EQUIPMENT, SILICA SAND STORAGE SYSTEMS, EQUIPMENT USED FOR TRANSLOADING, AND OPEN STORAGE PILES.

Subpart 1. **Standards for silica sand processing and conveying equipment, silica sand storage system, and equipment used for transloading.** Each silica sand processing and conveying equipment, silica sand storage system, and equipment used for transloading must meet the stack emission limits and compliance requirements of this part within 180 days after initial startup or <X year(s) after publication date>, whichever comes later.

A. Except as provided in item C, the owner or operator of each silica sand processing and conveying equipment, silica sand storage system, and equipment used for transloading must not cause to be emitted into the atmosphere any gases which exhibit <placeholder> percent opacity or greater.

B. The owner or operator must not cause to be emitted into the atmosphere from any mechanical vent on an emission unit gases which contain particulate matter in excess of <placeholder> gr/dscf.

C. The owner or operator shall prepare a fenceline monitoring plan described in part 7011.0245 and 7011.0255.

D. The monitoring period may cease after a period of no less than three years.

E. Written authorization from the commissioner is required to cease monitoring.

Subp. 3. Fugitive silica dust emission control plan for open storage piles. The owner or operator of each open storage pile must prepare and operate in accordance with a submitted fugitive silica sand dust emissions control plan that is appropriate for the site conditions as specified in items A to D.

A. The fugitive silica sand dust emissions control plan must identify and describe the control measures the owner or operator will use to minimize fugitive silica sand dust emissions from each open storage pile.

B. The fugitive silica sand dust emissions control plan must require that one or more of the following control measures be used for each source of fugitive emissions:

(1) Locating the source inside a partial enclosure,

(2) installing and operating a water spray or fogging system,

(3) applying chemical dust suppression agents on the source that meet the provisions of subitem (C) of this subpart,

(4) use of a wind barrier, or

(5) use of a vegetative cover.

C. The fugitive dust control plan must explain how the measure or measures selected are applicable and appropriate for site conditions.

D. Where appropriate chemical dust suppression agents are selected by the owner or operator as a control measure to minimize fugitive silica sand dust emissions, (1) only chemical dust suppressants with Occupational Safety

and Health Administration (OSHA)-compliant material safety data sheets (MSDS) are allowed; (2) the MSDS must be included in the fugitive silica sand dust emissions control plan; and (3) the owner or operator must consider and document in the fugitive silica sand dust emissions control plan the site-specific impacts associated with the use of such chemical dust suppressants.

E. The owner or operator shall also prepare and implement a fence-line monitoring plan described in parts 7011.0245 and 7011.0250.

7011.0225 PERFORMANCE TESTS AND OTHER COMPLIANCE REQUIREMENTS.

Subpart 1. **Initial particulate matter performance test.** For each emission unit at a silica sand facility subject to a PM emissions standard, an initial performance test must be performed.

Subp. 2. **Initial opacity performance test.** For each emission unit at a silica sand facility subject to an opacity standard, an initial performance test must be performed.

Subp. 3. **Deemed to be in compliance.** If any silica sand processing and conveying equipment, silica sand storage systems, or equipment used for silica sand transloading are enclosed in a building, and emissions from the building do not exceed any of the standards in part 7011.0220 that apply to the emission unit, then the emission unit shall be deemed to be in compliance with such standards.

Subp. 4. **Alternative requirements.** As an alternative to meeting the requirements in subpart 2, an owner or operator of an affected facility may elect to comply with all of the requirements in item A, all of the requirements in item B, or all of the requirements in item C:

A. Monitor visible emissions from each affected facility according to the requirements in subitems (1) to (3).

(1) Conduct one daily 15-second observation each operating day for each emission unit when the silica sand facility is in operation. Each observation must be recorded as either visible emissions observed or no visible emissions observed. Each observer determining the presence of visible emissions must meet the training requirements specified in §2.3 of Method 22 of Appendix A-7 of 40 CFR Part 60. If visible emissions are observed during any 15-second observation, the owner or operator must adjust the operation of the affected facility and demonstrate within 24 hours that no visible emissions are observed from the affected facility. If visible emissions are observed, a performance test meeting the requirements of Method 9, of Appendix A-4 of 40 CFR Part 60 must be conducted within 45 operating days.

(2) Conduct monthly visual observations of all process and control equipment. If any deficiencies are observed, the necessary maintenance must be performed as expeditiously as possible.

(3) Conduct a performance test using Method 9 of Appendix A-4 of 40 CFR Part 60 at least once every 5 calendar years for each affected facility.

B. Prepare a written site-specific monitoring plan for a digital opacity compliance system for approval by the commissioner. The plan shall require observations of at least one digital image every 15 seconds for 10-minute periods every operating day. An approvable monitoring plan must include a demonstration that the occurrences of visible emissions are not in excess of 5 percent of the observation period. For reference purposes in preparing the monitoring plan, see OAQPS "Determination of Visible Emission Opacity from Stationary Sources Using Computer-Based Photographic Analysis Systems." This document is available from the U.S. Environmental Protection Agency (U.S. EPA); Office of Air Quality and Planning Standards; Sector Policies and Programs Division; Measurement Group (D243-02), Research Triangle Park, NC 27711. The monitoring plan approved by the commissioner shall be implemented by the owner or operator.

C. Install, operate, and maintain a continuous opacity monitoring system (COMS). Each COMS used to comply with provisions of this subpart must be installed, calibrated, maintained, and continuously operated according to the requirements in subitems 1 and 2.

(1). The COMS must meet Performance Specification 1 in 40 CFR Part 60, Appendix B.

(2). The COMS must comply with the quality assurance requirements in units (a) to (e).

(a) The owner or operator must automatically, intrinsic to the opacity monitor, check the zero and upscale span calibration drifts at least once daily. For particular COMS, the acceptable range of zero and upscale calibration materials is as defined in the applicable version of Performance Specification 1 in 40 CFR Part 60, Appendix B.

(b) The owner or operator must adjust the zero and span whenever the 24-hour zero drift or 24-hour span drift exceeds 4 percent opacity. The COMS must allow for the amount of excess zero and span drift measured at the 24-hour interval checks to be recorded and quantified. The optical surfaces exposed to the effluent gases must be cleaned prior to performing the zero and span drift adjustments, except for systems using automatic zero adjustments. For systems using automatic zero adjustments, the optical surfaces must be cleaned when the cumulative automatic zero compensation exceeds 4 percent opacity.

(c) The owner or operator must apply a method for producing a simulated zero opacity condition and an upscale (span) opacity condition using a certified neutral density filter or other related technique to produce a known obscuration of the light beam. All procedures applied must provide a system check of the analyzer internal optical surfaces and all electronic circuitry including the lamp and photodetector assembly.

(d) Except during periods of system breakdowns, repairs, calibration checks, and zero and span adjustments, the COMS must be in continuous operation and must complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

(e) The owner or operator must reduce all data from the COMS to 6-minute averages. Six-minute opacity averages must be calculated from 36 or more data points equally spaced over each 6-minute period. Data recorded during periods of system breakdowns, repairs, calibration checks, and zero and span adjustments must not be included in the data averages. An arithmetic or integrated average of all data may be used.

7011.0230 CONTINUOUS MONITORING REQUIREMENTS.

Subpart 1. **Monitoring requirements.** The owner or operator of each thermal dryer must meet the monitoring requirements specified in items A and B, as applicable to the affected facility.

A. The owner or operator shall install, calibrate, maintain, and continuously operate monitoring devices as follows:

(1) For affected facilities that use fabric filter control equipment, a monitoring device for the continuous measurement of the pressure loss across the control equipment. The monitoring device is to be certified by the manufacturer to be accurate within ± 0.1 inch water gauge.

(2) For affected facilities that use wet scrubber emission control equipment:

(a) A monitoring device for the continuous measurement of the pressure loss through the venturi constriction of the control equipment. The monitoring device is to be certified by the manufacturer to be accurate within ± 1 inch water gauge.

(b) A monitoring device for the continuous measurement of the water supply pressure to the control equipment. The monitoring device is to be certified by the manufacturer to be accurate within ± 5 percent of design water supply pressure. The pressure sensor or tap must be located close to the water discharge point. The commissioner shall have discretion to grant requests for approval of alternative monitoring locations.

B. All monitoring devices under subpart 1 are to be recalibrated annually in accordance with procedures under §60.13(b).

Subp. 2. **Operating mechanical vents.** The owner or operator of each emission unit that has one or more mechanical vents must install, calibrate, maintain, and continuously operate the monitoring devices specified in items A to B, as applicable to the mechanical vent and any control device installed on the vent.

A. For mechanical vents with fabric filters with design controlled PM emissions rates of <placeholder> per year or more, a bag leak detection system according to the requirements subpart 3.

B. For mechanical vents with wet scrubbers, monitoring devices according to the requirements in subitems (1) to (3).

(1) A monitoring device for the continuous measurement of the pressure loss through the venturi constriction of the control equipment. The monitoring device is to be certified by the manufacturer to be accurate within ± 0.1 inch water gauge.

(2) A monitoring device for the continuous measurement of the water supply flow rate to the control equipment. The monitoring device is to be certified by the manufacturer to be accurate within ± 5 percent of design water supply flow rate.

(3) An average value for each monitoring parameter must be determined during each performance test. Each monitoring parameter must then be maintained within 10 percent of the value established during the most recent performance test on an operating day average basis.

Subp. 3. **Operating bag leak detection systems.** Each bag leak detection system used to comply with provisions of this subpart must be installed, calibrated, maintained, and continuously operated according to the requirements in items A to C.

A. The bag leak detection system must meet the specifications and requirements in subitems (1) to (8).

(1) The bag leak detection system must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 0.00044 grains per dry standard cubic foot or less.

(2) The bag leak detection system sensor must provide output of relative PM loadings. The owner or operator shall continuously record the output from the bag leak detection system using electronic or other means, such as a strip chart recorder or a data logger.

(3) The bag leak detection system must be equipped with an alarm system that will sound when the system detects an increase in relative particulate loading over the alarm set point established according to subitem (4), and the alarm must be located such that it can be heard by the appropriate facility personnel.

(4) In the initial adjustment of the bag leak detection system, the owner or operator must establish, at a minimum, the baseline output by adjusting the sensitivity range and the averaging period of the device, the alarm set points, and the alarm delay time.

(5) Following initial adjustment, the owner or operator must not adjust the averaging period, alarm set point, or alarm delay time without approval from the commissioner except as provided in subitem (6).

(6) Once per quarter, the owner or operator may adjust the sensitivity of the bag leak detection system to account for seasonal effects, including temperature and humidity, according to the procedures identified in the site-specific monitoring plan required by item B.

(7) The owner or operator must install the bag leak detection sensor downstream of the fabric filter.

(8) Where multiple detectors are required at a silica sand facility, the system's instrumentation and alarm may be shared among detectors.

B. The owner or operator must develop and submit to the commissioner for approval a site-specific monitoring plan for each bag leak detection system. The owner or operator must operate and maintain the bag leak detection system according to the site-specific monitoring plan at all times. Each monitoring plan must describe the items in subitems (1) to (6).

(1) Installation of the bag leak detection system;

(2) Initial and periodic adjustment of the bag leak detection system, including how the alarm set-point will be established;

(3) Operation of the bag leak detection system, including quality assurance procedures;

(4) How the bag leak detection system will be maintained, including a routine maintenance schedule and spare parts inventory list;

(5) How the bag leak detection system output will be recorded and stored; and

(6) Corrective action procedures as specified in item C. In approving the site-specific monitoring plan, the commissioner may allow the owner and operator more than 3 hours to alleviate a specific condition that causes an alarm if the owner or operator identifies in the monitoring plan this specific condition as one that could lead to an alarm, adequately explains why it is not feasible to alleviate this condition within 3 hours of the time the alarm occurs, and demonstrates that the requested time will ensure alleviation of this condition as expeditiously as practicable.

C. For each bag leak detection system, the owner or operator must initiate procedures to determine the cause of every alarm within 1 hour of the alarm. Except as provided in subitem B(6) of this subpart, the owner or operator must alleviate the cause of the alarm within 3 hours of the alarm by taking whatever corrective action(s) are necessary. Corrective actions include, but are not limited to, the following:

(1) Inspecting the fabric filter for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in PM emissions;

(2) Sealing off defective bags or filter media;

- (3) Replacing defective bags or filter media or otherwise repairing the control device;
- (4) Sealing off a defective fabric filter compartment;
- (5) Cleaning the bag leak detection system probe or otherwise repairing the bag leak detection system; or
- (6) Shutting down the process producing the PM emissions.

7011.0235 TEST METHODS AND PROCEDURES.

Subpart 1. **Applicable opacity standards.** The owner or operator must determine compliance with the applicable opacity standards as specified in items A to B.

A. Method 9 of Appendix A-4 of 40 CFR Part 60 and the procedures in §60.11 must be used to determine opacity, with the exceptions specified in subitems (1) and (2).

(1) The duration of the Method 9 of Appendix A-4 of 40 CFR Part 60 performance test shall be 1 hour (ten 6-minute averages).

(2) If, during the initial 30 minutes of the observation of a Method 9 of Appendix A-4 of 40 CFR Part 60 performance test, all of the 6-minute average opacity readings are less than or equal to half the applicable opacity limit, then the observation period may be reduced from 1 hour to 30 minutes.

B. A visible emissions observer may conduct visible emission observations for up to three fugitive, stack, or vent emission points within a 15-second interval if the following conditions specified in subitems (1) to (3) are met:

(1) No more than three emissions points may be read concurrently.

(2) All three emissions points must be within a 70 degree viewing sector or angle in front of the observer such that the proper sun position can be maintained for all three points.

(3) If an opacity reading for any one of the three emissions points equals or exceeds the applicable standard, then the observer must stop taking readings for the other two points and continue reading just that single point.

Subp. 2. **Demonstrating compliance.** The owner or operator must conduct all performance tests required by this part to demonstrate compliance with the applicable emissions standards specified in part 7011.0210 according to the requirements in Minn. R. Ch. 7017 using the applicable test methods and procedures in items A to F of this subpart.

A. Method 1 or 1A of Appendix A-4 of 40 CFR Part 60 shall be used to select sampling port locations and the number of traverse points in each stack or duct. If there is a control device, then the sampling site must be at the outlet of the control device, but prior to any releases to the atmosphere. If there is no control device present, then the sampling site must be at the outlet of the emissions source but prior to any releases to the atmosphere.

B. Method 2, 2A, 2C, 2D, 2F, or 2G of Appendix A-4 of 40 CFR Part 60 shall be used to determine the volumetric flow rate of the stack gas.

C. Method 3, 3A, or 3B of Appendix A-4 of 40 CFR Part 60 shall be used to determine the dry molecular weight of the stack gas. The owner or operator may use ANSI/ASME PTC 19.10-1981, "Flue and Exhaust Gas Analyses as an alternative to Method 3B of Appendix A-2 of 40 CFR Part 60.

D. Method 4 of Appendix A-4 of 40 CFR Part 60 shall be used to determine the moisture content of the stack gas.

E. Method 5, Method 5I of Appendix A-5 of 40 CFR Part 60 or Method 17 of Appendix A-7 of 40 CFR Part 60 shall be used to determine the PM concentration. The sampling volume for each run shall be at least 60 dry standard cubic feet. A minimum of three valid test runs are needed to comprise a PM performance test.

F. In some cases, velocities of exhaust gases from building vents may be too low to measure accurately with the type S pitot tube specified in EPA Method 2 of Appendix A-1 of this part [i.e., velocity head <1.3 mm H₂O (0.05 in. H₂O)] and referred to in EPA Method 5 of Appendix A-3 of 40 CFR Part 60. For these conditions, the owner or operator may determine the average gas flow rate produced by the power fans (e.g., from vendor-supplied fan curves) to the building vent. The owner or operator may calculate the average gas velocity at the building vent measurement site using Equation 1 of this part and use this average velocity in determining and maintaining isokinetic sampling rates.

$$v_e = \frac{Q_f}{A_e} \quad (\text{Eq. 1})$$

Where:

v_e = average building vent velocity (feet per minute);

Q_f = average fan flow rate (cubic feet per minute); and

A_e = area of building vent and measurement location (square feet).

7011.0240 REPORTING AND RECORDKEEPING.

Subpart 1. **Written record.** The owner or operator of a silica sand facility shall maintain a logbook (written or electronic) on-site and make it available upon request. The logbook shall record the following:

A. The manufacturer's recommended maintenance procedures and the date and time of any maintenance and inspection activities and the results of those activities. Any variance from manufacturer recommendation, if any, shall be noted.

B. The date and time of periodic silica sand facility visual observations, noting those sources with visible emissions along with corrective actions taken to reduce visible emissions. Results from the actions shall be noted.

C. The amount of silica sand processed each calendar month.

D. The amount of chemical stabilizer or water purchased for use in the silica sand facility.

E. Monthly certification that the dust suppressant systems were operational when any silica sand was processed and that manufacturer's recommendations were followed for all control systems. Any variance from the manufacturer's recommendations, if any, shall be noted.

F. Monthly certification that the fugitive silica sand dust emissions control plan was implemented as described. Any variance from the plan, if any, shall be noted. A copy of the applicable fugitive silica sand dust emissions control plan and any letters from the commissioner providing approval of any alternative control measures shall be maintained with the logbook.

G. For each bag leak detection system, the owner or operator must keep the records specified in subitems (1) to (3).

(1) Records of the bag leak detection system output;

(2) Records of bag leak detection system adjustments, including the date and time of the adjustment, the initial bag leak detection system settings, and the final bag leak detection settings; and

(3) The date and time of all bag leak detection system alarms, the time that procedures to determine the cause of the alarm were initiated, the cause of the alarm, an explanation of the actions taken, the date and time the cause of the alarm was alleviated, and whether the cause of the alarm was alleviated within 3 hours of the alarm.

H. A copy of any applicable monitoring plan for a digital opacity compliance system and monthly certification that the plan was implemented as described. Any variance from plan, if any, shall be noted.

I. During a performance test of a wet scrubber, the owner or operator shall record the measurements of the scrubber pressure loss, and water supply flow rate.

Subp. 2. **Semiannual reports.** For the purpose of reports required under part 7007.0800, subp. 6(A)(2), any owner or operator subject to the provisions of this subpart also shall report semiannually periods of excess emissions as follow:

A. The owner or operator of an affected facility with a wet scrubber shall submit semiannual reports to the commissioner of occurrences when the measurements of the scrubber pressure loss or water supply flow rate vary by more than 10 percent from the average determined during the most recent performance test.

B. All 6-minute average opacities that exceed the applicable standard.

7011.0245 SILICA FENCE-LINE MONITORING

Subpart 1. **Analytical Method.** The owner or operator shall conduct sampling along the facility property boundary for respirable crystalline silica and analyze the samples in accordance with NIOSH 7500.

Subp. 2. **Target analyte.** The target analyte is quartz.

Subp. 3. **Monitoring locations.** The owner or operator shall propose monitor locations in accordance with EPA-454/R-98-004, Quality Assurance Handbook for Air Pollution Measurement Systems, Volume II: Part 1: Ambient Air Quality Monitoring Program Quality System Development, August 1998 (incorporated by reference—see § 63.14). There shall be at least one upwind and one downwind monitor. Monitor locations shall be informed by at least one of the following criteria in items A through B.

(A) Five years of National Weather Service meteorological data from an off-site monitor

(B) One year of on-site meteorological data

Subp. 4. **Meteorological Station.** The owner or operator shall install and operate a dedicated on-site meteorological station.

A. The owner or operator shall collect and record hourly average meteorological data, including wind speed, wind direction, barometric pressure, and temperature.

B. The owner or operator shall follow the calibration and standardization procedures for meteorological measurements in EPA-454/B-08-002, Quality Assurance Handbook for Air Pollution Measurement Systems, Volume IV: Meteorological Measurements, Version 2.0 (Final), March.

Subp. 5. **Length of the sampling.** The length of the sampling episode must be 24 hours, unless a shorter sampling episode is determined to be necessary under subpart 6. A sampling episode is defined as the period during which the owner or operator collects the sample and does not include the time required to analyze the sample. Samples shall be taken once every six days, unless a more frequent sampling frequency is determined to be necessary under subpart 6.

Subp. 6. **Site-specific monitoring plan.** The site-specific monitoring plan shall be submitted to the commissioner for approval. The owner or operator must receive approval from the commissioner prior to the commencement of the monitoring period.

7011.0250 TSP Fence-line Monitoring.

Subpart 1. Sampling Method. The owner or operator shall conduct sampling along the facility property boundary and analyze the samples in accordance with 40 CFR part 50 and Minn. R. 7009.0050.

Subp 2. Target Analyte. The target analyte is Particulate Matter as that term is defined at part 7005.0100.

Subp. 3 Monitoring Locations. The owner or operator shall propose monitor locations in accordance with EPA-454/R-98-004, Quality Assurance Handbook for Air Pollution Measurement Systems, Volume II: Part 1: Ambient Air Quality Monitoring Program Quality System Development, August 1998 (incorporated by reference—see § 63.14). There shall be at least one upwind and one downwind monitor. Monitor locations shall be informed by at least one of the following criteria in items A through B.

- (A) Five years of National Weather Service meteorological data from an off-site monitor
- (B) One year of on-site meteorological data,

Subp. 4 Meteorological Station. The owner or operator shall install and operate a dedicated on-site meteorological station.

(A) The owner or operator shall collect and record hourly average meteorological data, including wind speed, wind direction, barometric pressure, and temperature.

(B) The owner or operator shall follow the calibration and standardization procedures for meteorological measurements in EPA-454/B-08-002, Quality Assurance Handbook for Air Pollution Measurement Systems, Volume IV: Meteorological Measurements, Version 2.0 (Final), March.

Subp. 5 Length of the Sampling. The length of the sampling episode must be 24 hours, unless a shorter sampling episode is determined to be necessary under subpart 6. A sampling episode is defined as the period during which the owner or operator collects the sample and does not include the time required to analyze the sample. Samples shall be taken once every six days, unless a more frequent sampling frequency is determined to be necessary under subpart 6.

Subp. 6 Site-specific monitoring plan. The site-specific monitoring plan shall be submitted to the commissioner for approval. The owner or operator must receive approval from the commissioner prior to the commencement of the monitoring period.

7011.0255 PM10 Fence-line Monitoring.

Subpart 1. Sampling Method. The owner or operator shall conduct sampling along the facility property boundary and analyze the samples in accordance with 40 CFR part 50 and part 7009.0050.

Subp. 2 Target Analyte. The target analyte is PM₁₀ as that term is defined at part 7005.0100.

Subp. 3 Monitoring Locations. The owner or operator shall propose monitor locations in accordance with EPA-454/R-98-004, Quality Assurance Handbook for Air Pollution Measurement Systems, Volume II: Part 1: Ambient Air Quality Monitoring Program Quality System Development, August 1998 (incorporated by reference—see § 63.14). There shall be at least one upwind and one downwind monitor. Monitor locations shall be informed by at least one of the following criteria in items A through B.

- (A) Five years of National Weather Service meteorological data from an off-site monitor
- (B) One year of on-site meteorological data

Subp. 4 Meteorological Station. The owner or operator shall install and operate a dedicated on-site meteorological station.

(1) The owner or operator shall collect and record hourly average meteorological data, including wind speed, wind direction, barometric pressure, and temperature.

(2) The owner or operator shall follow the calibration and standardization procedures for meteorological measurements in EPA-454/B-08-002, Quality Assurance Handbook for Air Pollution Measurement Systems, Volume IV: Meteorological Measurements, Version 2.0 (Final), March.

Subp. 5 Length of Sampling. The length of the sampling episode must be 24 hours, unless a shorter sampling episode is determined to be necessary under subpart 6. A sampling episode is defined as the period during which the owner or operator collects the sample and does not include the time required to analyze the sample. Samples shall be taken once every six days, unless a more frequent sampling frequency is determined to be necessary under subpart 6.

Subp. 6 Site-specific Monitoring Plan. The site-specific monitoring plan shall be submitted to the commissioner for approval. The owner or operator must receive approval from the commissioner prior to the commencement of the monitoring period.

7011.0260 PM_{2.5} Fence-line Monitoring.

Subpart 1. Sampling Method. The owner or operator shall conduct sampling along the facility property boundary and analyze the samples in accordance with 40 CFR part 50 and part 7009.0050.

Subp. 2. Target Analyte. The target analyte is PM_{2.5} as that term is defined at part 7005.0100.

Subp. 3. Monitoring Locations. The owner or operator shall propose monitor locations in accordance with EPA-454/R-98-004, Quality Assurance Handbook for Air Pollution Measurement Systems, Volume II: Part 1: Ambient Air Quality Monitoring Program Quality System Development, August 1998 (incorporated by reference—see § 63.14). There shall be at least one upwind and one downwind monitor. Monitor locations shall be informed by at least one of the following criteria in items A through B.

- (A) Five years of National Weather Service meteorological data from an off-site monitor
- (B) One year of on-site meteorological data

Subp. 4 Meteorological Station. The owner or operator shall install and operate a dedicated on-site meteorological station.

(1) The owner or operator shall collect and record hourly average meteorological data, including wind speed, wind direction, barometric pressure, and temperature.

(2) The owner or operator shall follow the calibration and standardization procedures for meteorological measurements in EPA-454/B-08-002, Quality Assurance Handbook for Air Pollution Measurement Systems, Volume IV: Meteorological Measurements, Version 2.0 (Final), March.

Subp. 5 Length of Sampling. The length of the sampling episode must be 24 hours, unless a shorter sampling episode is determined to be necessary under subpart 6. A sampling episode is defined as the period during which the owner or operator collects the sample and does not include the time required to analyze the sample. Samples shall be taken once every six days, unless a more frequent sampling frequency is determined to be necessary under subpart 6.

Subp. 6 Site- Specific Monitoring Plan. The site-specific monitoring plan shall be submitted to the commissioner for approval. The owner or operator must receive approval from the commissioner prior to the commencement of the monitoring period.

7011.0265 Noise Testing.

The owner or operator of a silica sand handling facility shall conduct ambient noise sampling in accordance with the measurement methodology in part 7030.0060 in general, and at one or more measurement locations meeting the requirements in part 7030.0060. The noise testing shall be conducted concurrent with the PM testing required under 7011.0225.

7011.0270 Cessation of Operations.

The owner or operator of a silica sand handling facility shall not conduct any silica sand handling operations that are not shielded from the wind or enclosed in a building when steady wind speeds exceed <placeholder> miles per hour as determined at the nearest official station of the United States Weather Bureau or by wind speed instruments on or adjacent to the site.

7011.0275 Vehicles.

Suppart 1. Unpaved Roads. The owner or operator shall water the unpaved roads at the facility. For the purposes of this subpart, "Wet" is defined as having a moisture content greater than 2.0% as indicated by ASTM method numbers D 2216-92 or D 4643-93, or equivalent. "Dry" is defined as having a moisture content less than or equal to 2.0% as indicated by ASTM method numbers D 2216-92 or D 4643-93, or equivalent. Water application rates and schedules shall comply with the following conditions:

(A) The water application rate shall be at least 0.10 gallon of water per square foot of unpaved road every 24 hours.

(B) A rainfall of at least 0.16 inch during the previous 24 hours shall substitute for one water application, unless the moisture content is rated as "dry" at the three of the most frequently traveled road segments.

(C) When visible emissions are observed, the owner or operator shall water the source of those visible emissions until the moisture content of the source is greater than 2.0%.

(D) If unpaved roads cannot be watered because the ambient air temperature, as measured at the facility during daylight operating hours, will be less than 35 degrees F, or conditions due to weather, in combination with the application of water, could create hazardous driving conditions, then watering shall be postponed and accomplished as soon as the conditions have abated.

(E) Water application is not required on days when there is no vehicle traffic.

(F) Water application is not required when the daily qualitative assessment of the moisture content is "wet."

(G) Following any day when water is not applied based on the absence of traffic, water shall be applied within 3 hours of commencement of vehicle traffic, unless another criterion for not watering is met.

Subp 2. Paved Roads. The owner or operator shall pave the surface between the entrance of the facility and the silica sand transfer and loading system. The paved surface shall be cleaned on the following schedule:

(A) The paved surface shall be vacuum swept once every 24 hours.

(B) A rainfall of at least 0.16 inch during the previous 24 hours shall substitute for sweeping, unless the moisture content is rated as "dry" at the three of the most frequently traveled road segments.

(C) When visible emissions are observed, the owner or operator shall vacuum sweep the source of those visible emissions are abated.

(D) If paved roads cannot be vacuum swept due to snow or ice conditions on the road surface, then vacuum sweeping shall be postponed and accomplished as soon as the conditions have abated.

(E) Vacuum sweeping is not required on days when there is no vehicle traffic.

Subp. 3. Covered Loads. All vehicles with open beds that enter the facility shall have covers to minimize dust generation. All vehicles must be covered when leaving the facility. The owner or operator shall not allow vehicles without operable covers to make any silica sand deliveries or pick-ups.

Subp. 4. Track-out. All trucks shall pass through a wheel wash station prior to departing the facility. If the wheel wash station cannot be operate because the ambient air temperature, as measured at the facility during daylight operating hours, will be less than 35 degrees F, or conditions due to weather, in combination with the application of water, could create hazardous driving conditions, then operation of the wheel wash station shall be postponed and resumed as soon as the conditions have abated.

Subp. 5. Road Maintenance Records. The owner or operator shall keep and maintain a daily record of actions taken on the paved and unpaved roads at the facility:

(A) The roads watered, the amount of water applied, the time watered, and the method of application. If water was not applied because there was a 0.16 inch or greater rainfall within the previous 24 hours, or because of the temperature or other weather conditions that would result in unsafe driving conditions, it must be noted in the record along with the source of measurement, such as an on-site rain gauge or thermometer.

(B) The roads vacuum swept, the time the roads were swept, and the method of sweeping. If the paved road surface was not swept because there was a 0.16 inch or greater rainfall within the previous 24 hours, or because of the temperature or other weather conditions, it must be noted in the record along with the source of measurement, such as an on-site rain gauge or thermometer.

(C) Records of watering, sweeping, and wheel wash station breakdowns and repairs, and records of contingency efforts undertaken.

(D) Whether or not visible emissions were observed. If visible emissions are observed then record the source of those emissions and the contingency efforts undertaken.

Subp. 6. Traffic Count. The owner or operator shall keep and maintain a daily record of the vehicles entering the facility. The owner or operator shall keep and maintain a daily record of the vehicles leaving the facility.

Subp. 7. If the truck throughput of the silica sand facility exceeds <placeholder> tons of silica sand per day, then the owner or operator shall prepare a fenceline monitoring plan described in part 7011.0245 and 7011.0260.

(A). The monitoring period may cease after a period of no less than three years.

(B). Written authorization from the commissioner is required to cease monitoring.

DRAFT

STATE OF MINNESOTA
DEPARTMENT OF NATURAL RESOURCES
PRELIMINARY DRAFT RULES

61XX

Silica Sand Mine Reclamation

Draft 03/03/2015

PURPOSE OF THIS DOCUMENT: *This document contains preliminary draft language related to silica sand mine reclamation rules. The formation of draft rules is and continues to be an iterative process and language in this document may change.*

OUTLINE

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- 61XX.0030 SCOPE

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- 61XX.0110 TOPSOIL AND OVERBURDEN MANAGEMENT
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- 61XX.0420 RELEASE OF FINANCIAL ASSURANCE
- 61XX.0430 REGULATORY AUTHORITY RIGHT OF INSPECTION

1 GENERAL PROVISIONS

2 61XX.0010 DEFINITIONS.

3 Subpart 1. **Scope.** The terms used in parts 61XX.0020 to 61XX.0430 have the following meanings:

4 Subp. 2. **Above grade pond.** “Above grade pond” means any water body used in the processing of
5 silica sand where the top of the constructed embankment is greater than six feet above the outside
6 ground surface of the water body.

7 Subp 3. **Air blast.** “Air blast” means the airborne shock wave or acoustic transient wave generated
8 by an explosive.

9 Subp 4. **Borrow site.** “Borrow site” means a temporary mine associated with a specific road
10 construction or transportation-related project.

11 Subp. 5. **Contingency reclamation.** “Contingency reclamation” means the reclamation of a mine
12 that meets 61XX.0010 through 61XX.0430 after an unexpected shutdown of operations.

13 Subp. 6. **Corrective actions.** “Corrective actions” means measures specified by the regulatory
14 authority to an operator to mitigate violations of an approved reclamation plan.

15 Subp. 7. **Existing mining project.** “Existing mining project” means any mine area recognized by the
16 local zoning authority as a legal nonconforming land use for mining operations or a mine area where
17 the operator possesses a valid permit by a regulatory authority issued before the date of adoption of
18 chapter 61XX.

19 Subp. 8. **Financial assurance.** “Financial assurance” means a commitment of funds or resources by
20 an operator to a regulatory authority that satisfies the requirements in 61XX.0220 and sufficient to pay
21 for corrective actions and reclamation activities required by this chapter.

22 Subp. 9. **Highwall.** “Highwall” means a vertical or nearly vertical face in bedrock or a slope of
23 consolidated or unconsolidated material that is steeper than 3:1 horizontal to vertical.

24 Subp. 10. **Intermittent mining.** “Intermittent mining” means mining with expected periods of
25 inactivity greater than nine months, with the intent to resume mining at a future date.

26 Subp. 11. **Mine area.** “Mine area” means contiguous or adjacent lands, under control of the same
27 person, used in connection with mining. Mine area includes the lands used in combination with mining
28 on which:

29 (1) earthen material is deposited;

- 30 (2) silica sand facilities are located;
31 (3) water bodies used in the mining process are located; and
32 (4) auxiliary lands that are used or intended to be used in a particular mining operation are
33 located.

34 Mine area excludes access roads outside of the mine area or lands that have been release from
35 financial assurance under [61XX.0420](#).

36 Subp. 12. **Mine waste.** “Mine waste” means silica sand that remains after processing or earthen
37 material displaced by mining.

38 Subp. 13. **Mining.** “Mining” means all or part of the process involved in extracting silica sand for the
39 sale or use by the operator. Mining includes use of mining equipment or techniques to remove
40 materials from silica-rich sandstones, including drilling and blasting, as well as associated activities such
41 as excavation, grading, and dredging. Mining does not include removal of earthen materials that
42 contain minimal or incidental amounts of silica sand.

43 Subp. 14. **New mining project.** “New mining project” means any mine area that meets the
44 following criteria:

- 45 (1) proposed mine area requiring a first-time permit to mine silica sand by a regulatory
46 authority;
47 (2) existing mine area requiring a new or amended permit to expand beyond the permitted
48 boundary;
49 (3) existing mine area requiring a new or amended permit to increase their permitted
50 production rate greater than 25%; or
51 (4) existing mine area requiring a new or amended permit to change the geologic material
52 being excavated to silica sand.

53 Subp. 15. **Operator.** “Operator” means any person who is engaged in, or has applied for an
54 approval of a reclamation plan for silica sand mining, whether individually, jointly or through
55 subsidiaries, agents, employees, contractors or subcontractors.

56 Subp. 16. **Overburden.** “Overburden” means earthen material that is displaced during mining
57 excluding topsoil and subsoil.

58 Subp. 17. **Person.** “Person” means an individual, owner, operator, firm, partnership, corporation,
59 joint venture, or other legal entity.

60 Subp. 18. **Phased reclamation.** “Phased reclamation” means the sequential or progressive
61 reclamation of portions of the mine area in advance of final site reclamation. Phased reclamation may

62 or may not be final reclamation, but is performed to minimize the area exposed to erosion at any one
63 time by mining activities.

64 Subp. 19. **Qualified Professional.** “Qualified professional” means a person who is registered and
65 licensed as provided by Minnesota Statutes, chapter 326.

66 Subp. 20. **Reclamation.** “Reclamation” means the rehabilitation of a mine area that achieves a land
67 use specified in an approved reclamation plan identified in 61XX.0100 to 61XX.0260.

68 Subp. 21. **Regulatory authority.** “Regulatory authority” means the governmental unit responsible
69 for approving the permit to mine for a new mine area within their jurisdiction and includes the
70 Department of Natural Resources, as provided by Minnesota Statutes 103G.217.

71 Subp. 22. **Self-sustaining.** “Self-sustaining” means the ability to maintain and self-renew without
72 intervention.

73 Subp. 23. **Silica sand.** “Silica sand” means an earthen material derived from silica-rich sandstones.

74 Subp. 24. **Silica-rich sandstone.** “Silica-rich sandstone” means an earthen material consisting of
75 quartzose sedimentary rock of mostly sand-sized particles. Quartzose is a physical characteristic of a
76 sedimentary rock formation where greater than 90% of the constituent rock particles consist of pure
77 quartz. Examples of silica-rich sandstones include formally recognized and described sandstones
78 defined in Paleozoic Stratigraphic Nomenclature for Minnesota, Minnesota Geologic Survey, Report of
79 Investigation 65 (2008).

80 Subp. 25. **Silica sand facility.** “Silica sand facility” means any facility that:

- 81 (1) operates silica sand processing equipment;
82 (2) operates equipment used for transloading silica sand;
83 (3) establishes and maintains an open or covered storage pile of silica sand; or
84 (4) operates a silica sand storage system.

85 Subp. 26. **Subsoil.** “Subsoil” means the layer or stratum of earthen material immediately under the
86 topsoil. Like topsoil it is composed of variable amounts of silt, sand, or clay, but lacks the organic
87 matter and humus content of topsoil. Subsoil is equivalent to the B horizon of a soil profile.

88 Subp. 27. **Topsoil.** “Topsoil” means the upper most portion of a soil where soil organic matter is
89 mixed with mineral material and is more fertile than underlying soil layers. Topsoil is equivalent to the
90 A horizon of a soil profile.

91 **61XX.0020 PURPOSE.**

92 The process of reclamation begins with planning for a new mining project, continues through mine
93 operation, and concludes when the criteria for reclamation at the cessation of a mine area have been
94 met. The purpose of parts **61XX.0010** to **61XX.0430** is to require reclamation of mine areas in order to:

- 95 A. control the possible adverse environmental effects of silica sand mining and to conserve natural
96 resources;
- 97 B. ensure the usefulness, productivity, and scenic values of all lands and waters involved in silica
98 sand mining within the state, that these lands will receive the protection and reclamation to the
99 greatest extent practicable at the earliest opportunity following silica sand mining;
- 100 C. provide for the greatest practicable degree of statewide consistency in the reclamation of silica
101 sand mining; and
- 102 D. ensure that reclamation is consistent with local land use plans.

103 This chapter establishes standards for the reclamation of mine areas, sets out requirements for
104 reclamation plans, defines standards for blasting, defines procedures and requirements applicable to
105 mines subject to parts **61XX.0010** to **61XX.0430**, and defines procedures for administering silica sand
106 reclamation plans, including the exercise of regulating authorities for inspections. These rules are
107 promulgated under Laws 2013, chapter 114, article 4, section 105(b).

108 **61XX.0030 SCOPE.**

109 Subpart 1. **Approval.** No person may engage in silica sand mining or silica sand mining reclamation
110 before receiving approval for a reclamation plan from the regulatory authority, unless the activity is
111 exempted in **subpart 5**.

112 Subp. 2. **Applicability.** Parts **61XX.0010** to **61XX.0430** apply as indicated in items A through D.

- 113 A. Nothing in these parts waive the requirements of federal, state, and local regulations
114 governing environmental regulations, public health, safety and welfare.
- 115 B. All new mining projects proposed after the adoption date of this rule, unless the activity is
116 exempted in **subpart 5**.
- 117 C. The rules do not apply to mine areas where mining has permanently ceased before
118 enactment of this rule.
- 119 D. Financial assurance requirements of **61XX.0220** do not apply to silica sand mining
120 conducted on behalf of the state, a state agency, board, commission, department, or local
121 government.

122 Subp. 3. **Joint applications.** When two or more operators are or will be engaged in silica sand
123 mining, all persons shall join in the application, and the approved reclamation plan must be issued
124 jointly.

125 Subp. 4. **Duration of reclamation plan approval.** The reclamation plan approved under parts
126 61XX.0010 to 61XX.0430 must last through the mine's operation and final reclamation. To maintain a
127 plan's approved status, the operator must fulfill the annual reporting requirements under 61XX.0240. If
128 changes occur within the mine area, the nature of planned reclamation, or other aspects of mining
129 required by the approved reclamation plan, the operator shall apply for a modification of the
130 reclamation plan under 61XX.0350.

131 Subp. 5. **Exempt activities.** Parts 61XX.0010 to 61XX.0430 do not apply to any of the following
132 activities:

- 133 A. excavations or grading of silica sand under one acre by a person solely for domestic or farm
134 use at that person's residence or farm;
- 135 B. excavation or grading of silica sand conducted for the construction, reconstruction,
136 maintenance or repair of a public highway, railroad, airport facility, or any other
137 transportation facility where the excavation or grading is entirely within the property
138 boundaries of the transportation facility;
- 139 C. excavation or grading of silica sand conducted for preparing a construction site or restoring
140 land following a flood or natural disaster;
- 141 D. dredging for navigational purposes;
- 142 E. constructing or maintaining drainage ditches;
- 143 F. remediation of environmental contamination and the disposal of spoils from these
144 activities; and
- 145 G. excavation of a borrow site that will be opened and reclaimed within 36 months where the
146 reclamation of the borrow site is specified under contract with a regulatory authority or the
147 Minnesota Department of Transportation.

148 STANDARDS

149 61XX.0100 PERFORMANCE STANDARDS.

150 Subpart 1. **Environmental regulations, public health, safety and welfare.** Reclamation must be
151 conducted and completed in a manner that assures compliance governing public health, safety and
152 welfare.

153 Subp. 2. **Water Quality and Quantity.** Reclamation must be conducted and completed in a manner
154 that assures compliance with applicable water quality and quantity standards.

155 Subp. 3. **Area disturbed and phased reclamation.** Reclamation must be conducted, to the extent
156 practicable,

157 (1) to minimize the area disturbed by mining; and

158 (2) to phase new disturbances with the reclamation of depleted or unused portions of the mine
159 area.

160 Subp. 4. **Final Topography.** Unless specified by the final approved reclamation plan, the topography
161 of reclaimed mine areas must comprise sinuous contours, rolling mounds and hills, and blend with
162 adjacent topography to a reasonable extent. Straight planar slopes and right angles must be avoided. If
163 the mine area intersects the Decorah Formation, topography restoration must provide for the creation
164 of perched, vegetated, wetlands if they were present within the mine area prior to mining.

165 Subp. 5. **Stormwater runoff.** The mine area must be designed and graded to produce post-
166 development hydrology that does not exceed predevelopment runoff rates and volumes to
167 surrounding properties. Runoff related to the complete range of rainfall frequencies, up to and
168 including a 100-year storm event, must be managed within the mine area.

169 Subp. 6. **Revegetation and site stabilization.** Except for permanent roads or similar surfaces, or
170 areas otherwise approved for continued use as identified in the reclamation plan, all land surfaces
171 affected by mining must be reclaimed and stabilized with vegetation or other means compatible with
172 local land use plans and noxious weed laws. Revegetation and site stabilization must be in accordance
173 with the approved reclamation plan and must be performed as soon as practicable after mining has
174 permanently ceased in any part of the mine area. All seed and plant materials shall be certified noxious
175 weed-free.

176 Subp. 7. **Ecological rehabilitation.** When the specified land use proposed by the approved
177 reclamation plan requires ecological or habitat rehabilitation, it must be reclaimed, to the extent
178 practicable, to an ecologically self-sustaining condition as outlined by the individual reclamation plan.
179 The use of a state approved seed mix and native species from an appropriate Minnesota biome should
180 be used whenever possible.

181 Subp. 8. **Invasive species.** The spread of non-native invasive species must be controlled within the
182 mine area. Prior to moving equipment out of the mine area, the equipment must be cleaned and free

183 from non-native invasive species to the extent practicable. If possible, cut wood must remain on-site.
184 The transportation of cut wood out of the mine area must follow state and federal quarantine laws.

185 Subp. 9. **Mine waste.** Mine waste must be used in accordance with the approved reclamation plan.
186 Other solid or hazardous wastes must be disposed of in accordance with applicable rules.

187 Subp. 10. **Blasting.** Blasting must be conducted in a manner that prevents injury to persons,
188 damage to public or private property outside of the mine area, mitigates adverse impacts on any
189 underground mine, and mitigates changes in the availability of surface or groundwater outside the
190 mine area.

191 **61XX.0110 TOPSOIL AND OVERBURDEN MANAGEMENT.**

192 Subp. 1. **Volume.** The operator shall obtain the volume of soil required to perform final reclamation
193 by removal of on-site topsoil or topsoil substitute material or by obtaining topsoil or substitute
194 material as needed to make up the volume of topsoil as specified in the reclamation plan.

195 Subp. 2. **Removal.**

- 196 A. Topsoil and subsoil must be immediately used to reclaim newly disturbed portions of the mine
197 area or stockpiled on site for use in future reclamation.
- 198 B. Topsoil must be carefully removed where mining activities destroy existing vegetation and
199 cause erosion within the mine area. Handling of topsoil during wet conditions must be avoided.
- 200 C. Topsoil must be separated from subsoil and overburden to the extent practicable.
- 201 D. No topsoil must be sold or permanently removed from the mine area unless approved within
202 the reclamation plan.

203 Subp. 2. **Storage requirements.**

- 204 A. Topsoil must be stored in separate piles from overburden and when possible stored separately
205 from subsoil. Piles must be labeled by material type.
- 206 B. Stockpiled material must be placed on a stable site within the mine area. The site must be
207 chosen to protect the material from compaction, erosion, further disturbance, and
208 contamination.
- 209 C. For long-term storage, stockpiled material must be protected from wind and water erosion
210 through prompt establishment and maintenance of an effect, quick growing vegetative cover or
211 through other measures approved by the regulatory authority.

212 D. Composting chipped wood and vegetative debris with topsoil is encouraged. Compost piles
213 must be regularly turned and maintained.

214 Subp. 3. **Substitution.** If the topsoil retained from the mine area is insufficient in terms of quantity
215 or quality to sustain the approved vegetative cover specified in the reclamation plan, topsoil may be
216 substituted, amended, or brought from off-site. Topsoil amendments, substitution, or replacement
217 must be free of contamination, free of plant parts or seed of noxious weed or invasive species, and is in
218 a usable condition for sustaining vegetation during reclamation. If requested by the regulatory
219 authority, operators must disclose sources of substitute materials.

220 **61XX.0120 GRADING AND SLOPES.**

221 Subpart 1. **Safe conditions.** All mine areas must be addressed in the approved reclamation plan,
222 under **61XX.0200** through **61XX.0260**, and provide for a stable and safe condition consistent with the
223 operational procedures and post-mining land use.

224 Subp. 2. **Bedrock highwalls.** Upon approval of the regulatory authority, the reclamation plan may
225 designate bedrock highwalls or other unmined and undisturbed natural solid bedrock as stable and
226 safe and not in need of reclamation.

227 Subp. 3. **Benching.** Unless approved by the regulatory authority, individual benches must not be
228 greater than 30 feet high.

229 Subp. 4. **Final slopes.**

230 A. Must not be steeper than a 3:1 horizontal to vertical incline, unless a steeper slope is
231 determined to be acceptable by meeting one of the following:

232 (1) Steeper slopes existed naturally within mine area prior to commencement of mining
233 or are required to blend with surrounding natural and stable topography.

234 (2) Steeper slopes are shown to be stable through a field plot demonstration approved
235 or within a reclamation plan;

236 (3) A steeper slope is determined to be stable through a site-specific engineering
237 analysis performed by a qualified professional engineer. All areas in the mine area
238 where topsoil or topsoil substitute material is to be reapplied must be graded or
239 otherwise prepared prior to topsoil or topsoil substitute material redistribution to
240 provide optimal adherence between the topsoil or topsoil substitute material and
241 the underlying material; or

242 (4) An alternative requirement is approved by the regulatory authority, as specified in
243 part **61XX.0370**.

- 244 B. Must be compacted if significant backfilling is required to produce the final reclaimed slopes
245 and if the regulatory authority determines that compaction is necessary.
- 246 C. May be left roughly graded but not rutted with small depressions and mounds to provide
247 micro-topographic variability, trap clay-bearing soil and promote diverse natural
248 revegetation when reasonable.

249 **61XX.0130 MINELAND WATER BODIES.**

250 Subpart 1. **Goal.** Water bodies within the mine area must be designed, constructed, and
251 maintained to be structurally sound and minimize hydrologic impacts.

252 Subp. 2. **Operation.**

- 253 A. Water bodies must be designed and constructed to maintain sufficient freeboard and
254 prevent overtopping of embankments.
- 255 B. Operators must maintain design capacity and function of water bodies through periodic
256 dredging of settled material.

257 Subp. 3. **Construction of above grade ponds.**

- 258 A. An operator must take proper measures to prevent undesirable seepage from an above
259 grade pond that could cause water quality degradation, cause flooding outside the mine
260 area, or adversely affect the stability of the embankments or adjacent slopes.
- 261 B. Qualified professional engineers proficient in the design, construction, operation, and
262 reclamation of settling ponds must approve the design of the above grade pond.
- 263 C. Design for above grade pond must include subitems 1 through 5.
- 264 (1) Rationale for the site selection, with regard to dam safety and characteristics of the
265 site that could affect, or could be affected, by the pond;
- 266 (2) Description of materials, construction, and operating performance specifications and
267 limitations that must be maintained to ensure protection of human safety and
268 natural resources;
- 269 (3) Survey locations to ensure compliance with the design;
- 270 (4) Schedule for a qualified professional engineer to inspect the construction, operation,
271 and maintenance of the pond; and
- 272 (5) Description how the pond will be deconstructed and reclaimed during closure of the
273 mine area.

274 Subp. 4. **Reclaimed water body.**

275 A. Approved final grade at the edge of a mineland water body must:

276 (1) have slopes no steeper than 3:1 horizontal to vertical at designated location or locations,
277 depending on the size of the water body, to allow for a safe exit; and

278 (2) extend into the water body vertically 6 feet below the lowest seasonal water level as
279 feasible.

280 B. Operator shall provide measures within the reclamation plan to establish a beneficial water
281 body by developing natural wildlife habitat and incorporating such features as irregular
282 shoreline configurations, sinuous bathymetry and shorelines, varied water depths, peninsulas,
283 islands, and subaqueous areas less than 1.5 foot deep.

284 Subp. 5. **Karst.** In areas where there is less than 50 feet of unconsolidated material directly over
285 Prairie du Chien Group bedrock, St. Lawrence Formation, or other carbonate bedrock units, the design
286 and construction of mineland water bodies requires:

287 A. a geotechnical investigation report signed by a qualified professional engineer;

288 B. a geophysical evaluation report, signed by a licensed professional geologist, characterizing
289 the underlying bedrock for karst features and voids;

290 C. ponding depth less than 10 feet; and

291 D. a liner that meets Minnesota Pollution Control Agency standards for permeability.

292 **61XX.0140 BLASTING STANDARDS.**

293 Subpart 1. **Applicability.** Blasting requirements apply to buildings or other structures with the
294 following exemptions:

295 A. buildings and structures owned by the operator or landowner and not leased to another
296 person; and

297 B. buildings and structures owned by the operator or landowner and leased to another person, if a
298 written and signed waiver by the lessee is submitted to the regulatory authority before blasting.

299 Subp. 2. **Air blast standards.** Air blasts due to blasting operations must not exceed the maximum
300 limit of 133 dB(L) (0.013 psi). For structures and utilities not defined in **subp. 1**, air overpressure limits
301 must be independently established based on technical justifications by qualified persons and experts
302 familiar with blasting related projects.

303 Subp. 3. **Ground vibrations.** The ground vibrations or particle velocity on any axis must not exceed
304 the limitations specified by [Code of Federal Regulations, title 30, chapter VII, subchapter K, part 816,](#)
305 [section 816.67, paragraph \(d\)\(4\)](#) as amended. For registered historic structures, the ground vibration
306 must be no greater than 0.5 inch per second for frequencies less than 10 Hz. For utilities, ground
307 vibration limits must be independently established based on technical justifications by engineers or
308 qualified personnel familiar with blasting-related projects.

309 Subp. 4. **Flyrock.** Flyrock travelling in the air or along the ground must not be cast from the blasting
310 site in an uncontrolled manner that could result in personal injury or property damage. Flyrock must
311 not be propelled from the mine area onto property for which the owner has not provided a written
312 and signed waiver to the operator.

313 Subp. 5. **Pre-blast surveys.** The operator shall offer and conduct pre-blast surveys. Survey
314 requirements must meet items A through D.

315 A. At least 45 days prior to the initial blasting, the operator shall notify a resident or owner of a
316 dwelling or structure of the right to requesting a pre-blast survey for dwellings or structures
317 located within one-half mile or at a distance of potential impact determined by a scale
318 distance formula from of any part of the mine area. Means of this notification to the
319 resident or owner must be approved by the regulatory authority.

320 B. A resident or owner of a dwelling or structure within one-half mile or distance of potential
321 impact determined by a scale distance formula from of any part of the mine area may
322 request a pre-blast survey. The request must be made, in writing, directly to the operator.
323 The operator shall promptly conduct a pre-blasting survey of identified dwellings or
324 structures and promptly prepare a written report of the survey. An updated survey of any
325 additions, modifications, or renovations must be performed by the operator if requested by
326 the resident or owner.

327 C. Pre-blast surveys must be completed by a third party, independent consultant.

328 D. Any survey requested within 14 days before the planned initial blast must be completed by
329 the operator before the initial blasting.

330 Subp 6. **Monitoring.** The operator shall monitor all blasts. Monitoring stations must be located
331 adjacent to the nearest structure located on lands not owned or controlled by the operator and where
332 the regulatory authority deems necessary to investigate complaints. Monitoring protocols include
333 items A through D.

334 A. Blasting seismographs used to monitor ground and air vibrations must comply with current
335 performance standards for blasting seismographs, as provided by the International Society
336 of Explosives Engineers.

- 337 B. Blasting seismographs must be deployed in the field according to the current field practice
338 guidelines for blasting seismographs, as provided by the International Society of Explosives.
- 339 C. When blasting monitoring with a blasting seismograph is not required by the regulatory
340 authority, the operator must comply with the scaled distance factors at the nearest building
341 or structure outside the mine area.
- 342 D. The operator shall notify the regulating authority if a blast exceeds the standards in **subp.**
343 **(2) and subp. (3)** or if flyrock lands onto property for which the owner has not provided a
344 written and signed waiver to the operator of the blast within seven days of the blast.

345 Subp. 7. **Records.** Operators shall keep a blaster's log of production blasts at the mine area, which
346 must be retained for 3 years from the date of the blast. The log must contain the following
347 information:

- 348 A. date and time of blast;
- 349 B. type of explosive used;
- 350 C. ignition layout with locations of blast holes and time intervals of delay;
- 351 D. pounds of explosives per each delay of eight milliseconds or more;
- 352 E. total pounds of explosives;
- 353 F. types of material blasted;
- 354 G. monitoring locations and results of monitoring when conducted;
- 355 H. meteorological conditions that include cloud cover, wind speed and directions as can be
356 determined from the United States Weather Bureau, and ground-based observations; and
- 357 I. directional orientation of free faces of bench to be blasted.

358 **61XX.0150 INTERMITTENT MINING.**

359 Intermittent mining may be conducted by an operator provided that the possibility of a temporary
360 shutdown of operations is addressed in an operator's reclamation plan, no environmental pollution or
361 erosion of sediments is occurring, and financial assurance for reclamation under **61XX.0220** is
362 maintained covering all remaining portions of the site that have been affected by silica sand mining
363 and that have not been reclaimed.

364 **RECLAMATION PLAN**

365 **61XX.0200 APPLICATION REQUIREMENTS.**

366 Subpart 1. **Application contents.** An operator who conducts or plans to conduct silica sand mining
367 shall submit to the regulatory authority an application conforming to subsection A through I.

- 368 A. The names, addresses, and telephone numbers of all persons or organizations who are
369 owners or lessors of the property on which the mine area is located.
- 370 B. The name, address, and telephone number of the person or organization who is the
371 operator.
- 372 C. The organizational structure of the applicant including, parent companies, owners, partners,
373 joint venturers or affiliated companies.
- 374 D. The organizational relationships between or among joint applicants.
- 375 E. A certificate issued by an insurance company authorized to do business in the United States
376 that the operator has a public liability insurance policy in force for the mining operation for
377 which the reclamation plan approval is sought, or evidence that the operator has satisfied
378 other state or federal self-insurance requirements, to provide personal injury and property
379 damage protection in an amount adequate to compensate any persons who might be
380 damaged as a result of the mining operation or any reclamation or restoration operations
381 connected with the mining operation.
- 382 F. The following certifications must be submitted as condition of the reclamation plan:
- 383 (1) A certification by the operator and landowner of their intent to comply with reclamation
384 standards established by 61XX.0100 through 61XX.0150; and
385 (2) A certification that the operator will provide financial assurance as required by
386 61XX.0220 upon approval of the reclamation plan before mining construction begins or
387 transfers of the reclamation plan under 61XX.0380.
- 388 G. List civil and criminal fines relating to the permit to mine or environmental violation that the
389 operator or affiliate companies have been issued over the past 10 years.
- 390 H. A map of the location of the proposed mine area with a brief description of the nature of
391 the mine area.
- 392 I. A reclamation plan approved and signed by a qualified professional with demonstrated
393 knowledge on similar projects that conforms to 61XX.0100 through 61XX.0260.

394 Subp. 2. **Information.** The operator shall provide digital geospatial information used to fulfill the
395 requirements of 61XX.0100 through 61XX.0260 to the regulatory authority upon request. To avoid
396 duplication, the plan application and submittals required by subp (1), may incorporate existing plans or
397 materials that meet the requirements of this chapter.

398 **61XX.0210 PRE-MINING CONDITIONS.**

399 Subpart. 1. **Goal.** To establish baseline measurements to be used for reclamation planning, existing
400 conditions of the mine area must be described before construction of any mining operations.

401 Subp. 2. **Requirements.**

- 402 A. Maps of the location of the mine area including property boundaries, ownership within the
403 mine area and one-half mile adjacent to mine area.
- 404 B. Maps and description of current land use of mine area and one-half mile adjacent to the
405 mine area including location and type of all structures, noting the location of registered
406 historical structures, within and one-half mile adjacent to mine area, including pipelines and
407 utilities.
- 408 C. Map of the distribution, thickness and type of topsoil within the proposed or existing mine
409 area.
- 410 D. Geologic setting of the deposit to be excavated including the following:
- 411 (1) a description of the bedrock geology;
- 412 (2) areal extent, thickness, depth, and geologic composition of the deposit; and
- 413 (3) thickness and characterization of overburden.
- 414 E. Description of the surface hydrology that includes the following;
- 415 (1) the location of the mine area within the major and minor watersheds,
- 416 (2) the location of existing draining patterns, streams, rivers, lakes, springs, seeps, and
417 wetlands, including calcareous fens, located within or adjacent to the project area;
- 418 (3) the location of sinkholes, caves or known surface karst features within or one-half mile
419 adjacent to the mine area boundary.
- 420 F. Description of any part of the mine area that is within one mile of a designated trout stream
421 contained within the boundaries of the Department of Natural Resources Paleozoic Plateau

422 Ecological Section and requires a permit as provided by Minnesota Statutes, section
423 103G.217.

- 424 G. Hydrogeological description of the mine area that includes the location of the approximate
425 elevation of groundwater in feet above mean sea level within the mine area, direction of
426 ground water flow within the water table aquifer and confined aquifers within the mine
427 area, the location of all wells, including wells not registered on the County Well Index,
428 within 1.5 miles of the boundary of the mine area. In specific instances where the existing
429 hydrogeological information is insufficient for purposes of the reclamation plan, the
430 applicant may supplement the information with the opinion of a licensed professional
431 geologist.
- 432 H. Existing topography as shown on contour maps of the site at intervals specified by the
433 regulatory authority.
- 434 I. Maps of existing roads, railroads, and transportation infrastructure within the proposed or
435 existing mine area.
- 436 J. For proposed project sites that include previously mined areas, a plan view drawing that
437 shows the location and extent of land previously affected by surface mining, including the
438 locations of piles, wash ponds, sediment basins, and other features that may be specified by
439 regulatory authority. The operator must include all approved reclamation plans associated
440 with previous mining activity.
- 441 K. Map and description of pre-European settlement vegetation within the mine area.
- 442 L. Within the mine area, map or assessment of existing biological resources, known or inferred
443 threatened or endangered species, and plant communities.
- 444 M. An official letter from the State Historical Preservation Office releasing the mine area of any
445 additional cultural resource assessment requirements.

446 **61XX.0211 DESCRIPTION OF MINING ACTIVITIES.**

447 Subpart 1. **Goal.** A description of the expected mining activities must be provided to the regulatory
448 authority.

449 Subp. 2. **Requirements.**

- 450 A. Description of the projected life of the operations including beginning and ending of
451 operations and any phases or stages.

- 452 B. Description of blasting activities and submission of a blasting plan that meets the standards
453 of **61XX.0140**.
- 454 C. Map of the proposed mine area that includes subitems 1 through 7.
- 455 (1) Boundaries of the areas to be disturbed by mining.
- 456 (2) Setback boundaries that apply to the project site.
- 457 (3) Avoidance areas with description on the reason for avoidance.
- 458 (4) All permanent boundary markers.
- 459 (5) Location of buffers, berms, fences, and gated mine entrance.
- 460 (6) Location of proposed and existing water wells, operation plants, processing areas,
461 load out sites, and transportation related infrastructure within the mine area.
- 462 (7) If applicable, the location of natural highwalls that will not be excavated.
- 463 E. A topsoil management and preservation plan that meets the standards of **61XX.0110**.
- 464 F. Location and description of mineland water bodies. Descriptions of above grade pond
465 design must include information specified in **61XX.0130, sub 2, item C**.
- 466 G. Description of the anticipated lowest mined elevation in feet above mean sea level.
- 467 H. Description of how invasive species and noxious weeds will be controlled within the mine
468 area including stockpiles, berms, and road shoulders.
- 469 I. If intermittent mining is expected to occur within the mine area, a description of subitems 1
470 through 5 for the periods of temporary shutdown.
- 471 (1) Reasonable efforts to address public safety.
- 472 (2) Reasonable efforts to prevent vandalism, illegal dumping, and trespassing.
- 473 (3) Maintenance or removal of mining infrastructure and on-site buildings.
- 474 (4) Control methods to prevent erosion and off-site sedimentation.
- 475 (5) Site-inspection schedule by the operator.

476 **61XX.0212 POST-MINING LAND USE.**

477 Subpart 1. **Goal.** The reclamation plan must specify a proposed post-mining land use for the mine
478 area. The proposed post-mining land use must be consistent with local land use plans and local zoning
479 at the time the plan is submitted, unless a future change to the land use plan or zoning is proposed.
480 The proposed post-mining land use must also be consistent with any applicable state, local, or federal
481 laws in effect at the time the plan is submitted.

482 Subp. 2. **Requirements.**

- 483 A. A description of the proposed earthwork and reclamation, including final slope angles,
484 highwall reduction, benching, terracing, and other structural slope stabilization measures
485 and if necessary a site-specific engineering analysis performed by a qualified professional.
- 486 B. The description of material used in reclamation and methods used to replace and stabilize
487 topsoil, subsoil, overburden, topsoil substitute material, and waste sand. Redistribution of
488 earthen materials must occur in stratigraphic order.
- 489 C. A plan or map which shows anticipated topography of the reclaimed site and any water
490 impoundments or artificial lakes.
- 491 D. A plan or map which shows remaining surface structures, roads, and related facilities after
492 the completion of mining.
- 493 E. Indexed estimation of the cost of reclamation in the first stage of the project or the entire
494 site if phased reclamation is not planned.
- 495 F. A revegetation plan delineating the timing and methods of seed bed preparation, rates and
496 kinds of soil amendments, seed mix, seed application timing, mulching, netting and any
497 other techniques needed to accomplish soil and slope stabilization. The revegetation plan
498 must meet the criteria of 61XX.0240 or provide alternative criteria to be approved by the
499 regulatory authority.
- 500 G. A description and drawing, showing erosion control measures to be employed during
501 reclamation activities.
- 502 H. A description of how the reclamation plan addresses the long-term safety of the reclaimed
503 mining site. The description must include a discussion of site-specific safety measures to be
504 implemented at the site and include measures that address public safety with regard to
505 adjacent land use.

506 **61XX.0220 FINANCIAL ASSURANCE.**

507 Subpart 1. **Purpose.** The purpose of financial assurance is to ensure a source of funds exists to be
508 used by the regulatory authority to cover all costs incurred by the regulatory authority for
509 administrating the reclamation plan if the operator fails to perform items A and B.

510 A. Reclamation activities including closure and postclosure maintenance needed if operations
511 cease; and

512 B. Corrective action as required by the regulatory authority if noncompliance with design and
513 operating criteria in the reclamation plan.

514 Subp 2. **Applicability.** Financial assurance is required for each mine area. Multiple mine areas may
515 be combined as allowed in **Subp. 6**. A state, county, municipality, or township operating a mine area is
516 not required to obtain financial assurance.

517 Subp. 3. **Reclamation cost estimates.** An operator intending to conduct a silica sand mining
518 operation must submit to the regulatory authority, as part of the reclamation plan, a documented
519 estimate of the cost necessary to implement the reclamation plan under part **61XX.0200** through
520 **61XX.0230** and corrective actions **61XX.0260**. Financial assurance must be payable exclusively to the
521 regulatory authority that has jurisdiction and who issues the approval for the reclamation plan.

522 A. Cost estimate must be based on the following:

523 (1) current dollar value at the time of the estimate;

524 (2) an itemized cost estimate of each mine area for the regulatory authority of administer
525 and hire third parties to implement either the final reclamation or contingency
526 reclamation according to the approved reclamation plan of all silica sand sites the
527 operator has under permit; and

528 (3) the cost of necessary postclosure monitoring and maintenance requirements.

529 B. No salvage value attributed to the sale of wastes, silica sand stockpiles, facility structures,
530 equipment, land or other assets must be used for estimating purposes.

531 C. The financial assurance is dictated by the period of time required for the site to be self-
532 sustaining in a manner protective of natural resources and in accordance with the approved
533 reclamation plan and when postclosure maintenance is no longer necessary.

534 Subp. 4. **Corrective action cost estimates.** When the regulatory authority determines that a
535 corrective action plan is required under part **61XX.0260**, the operator shall submit a documented
536 estimate of costs to perform the corrective action before implementation.

- 537 A. The operator shall provide annually adjusted cost estimates for corrective action to the
538 regulatory authority undertaken according to an approved corrective action plan under
539 **61XX.0260, subp. 2.**
- 540 B. Itemized cost estimate must be based on the following:
- 541 (1) current dollar value at the time of the estimate; and
- 542 (2) the cost to the regulatory authority of administering and hiring a third party to conduct
543 corrective action activities.

544 **Subp. 5. Criteria for financial assurance mechanisms.** Financial assurance mechanisms for
545 reclamation and for corrective action must meet the items A through F to be approved for use.

- 546 A. The mechanism must equal the amount determined by **subp. 3**, for post closure care, and
547 corrective action and must be available to the regulatory authority at all times.
- 548 B. The mechanism must be fully valid, binding, and enforceable under state and federal law.
- 549 C. Assurance that the funds can be accessed by the regulatory authority by action within
550 boundaries of the United States.
- 551 D. The financial assurance mechanism must not be dischargeable through bankruptcy.
- 552 E. Assurance the regulatory authority will be notified 120 days prior to the cancellation of a
553 financial assurance mechanism.
- 554 F. The regulatory authority may accept a lesser initial amount of financial assurance at the
555 beginning of a new project or transfer of a project provided that the operator initiates a
556 process to continuously increase the amount of financial assurance until it is adequate to
557 effect reclamation. An escrow account in cash may be established that is based on
558 production gross sales and serves to provide regular payments to an account that is
559 designed to grow to the amount necessary to guarantee performance of reclamation by the
560 expected time of reclamation.

561 **Subp. 6. Form and management.** The operator shall provide financial assurance that is acceptable
562 to the regulatory authority.

- 563 A. All terms and conditions of the financial assurance must be approved by the regulatory
564 authority. The regulatory authority, in evaluating financial assurance, shall use individuals
565 with documented experience in the analysis. The reasonable cost of the evaluation must be
566 paid by the applicant.

- 567 B. Financial assurance must be submitted to the regulatory authority for approval before the
568 approval of the reclamation plan and before granting a significant amendment to the plan.
- 569 C. Financial assurance arrangements may include, at the discretion of the regulatory
570 authority, more than one mechanism.
- 571 D. The amount of financial assurance must be reviewed as needed but no less than every three
572 years to assure the financial assurance equals outstanding reclamation costs. The regulatory
573 authority may notify the operator in writing about the review of financial assurance.
- 574 (1) If the new cost estimate approved by the regulatory authority is greater than the
575 amount of the existing financial assurance, the operator shall provide additional
576 financial assurance in an amount equal to the increase, or
- 577 (2) If the new cost estimate approved by the regulatory authority is less than the amount of
578 existing financial assurance, the operator shall be released from maintaining financial
579 assurance in an amount equal to the decrease.
- 580 E. The regulatory authority may cancel a financial assurance mechanism, only after it is
581 replaced by an alternate mechanism or after the operator is released from financial
582 assurance according to **subp. 8**.
- 583 F. Financial assurance must meet the criteria of **subp. 5**.

584 **Subp. 7. Multiple projects.** With approval by the regulatory authority, an operator who obtains a
585 plan approval from the regulatory authority for two or more silica sand sites within their jurisdiction
586 may elect, at the time the second or subsequent site is approved, to post a single financial assurance in
587 lieu of separate financial assurance mechanism for each silica sand mining site. When an operator
588 elects to post a single financial assurance in lieu of separate financial assurances for each mining site,
589 financial assurances previously posted on individual mining sites must not be released until the new
590 financial assurance has been accepted by the regulatory authority and is in effect.

591 **Subp. 8. Multiple jurisdictions.** In cases where more than one regulatory authority has jurisdiction,
592 a cooperative financial security arrangement may be developed and implemented by the regulatory
593 authorities to avoid requiring the operator needing to prove financial assurance with more than one
594 regulatory authority for the same silica sand mining site.

595 **Subp. 9. Forfeiture of financial assurance.** Financial assurance must be made available to the
596 regulatory authority under items A to C when the operator is not in compliance with either the
597 reclamation plan or the corrective action plan.

- 598 A. A proceeding to access financial assurance must be commenced by:

- 599 (1) serving an order to forfeit the financial assurance on the person, institution, or trustee
600 holding the financial assurance; and
- 601 (2) serving a notice to the operator of the measures required to correct the situation and
602 the time available for correction.
- 603 B. If conditions that provided grounds for the order are corrected within a period established
604 by the regulatory authority and if measures approved by the regulatory authority are taken
605 to ensure that the conditions do not recur, the order must be canceled.
- 606 C. If the conditions that provided grounds for the order are not corrected, the regulatory
607 authority shall proceed with accessing and expending the funds provided by this part to
608 implement the contingency reclamation or corrective action plans.

609 Subpart 10. **Failure to comply.** The regulatory authority shall take one or more of the following
610 actions if the failure to comply with any portion of this part occurs:

- 611 A. deny the reclamation plan approval under part 61XX.0340;
- 612 B. modify the reclamation plan under part 61XX.0350; or
- 613 C. suspend or revoke a reclamation plan approval under part 61XX.0360.

614 **61XX.0230 ANNUAL REPORTING REQUIREMENTS.**

615 Subpart 1. **Goal.** To maintain approval status of the reclamation plan, the operator shall submit
616 annual reports for all active and intermittent mining areas to the regulatory authority for each calendar
617 year until silica sand mining reclamation at the site is certified as complete under 61XX.0230 subp. 2 or
618 at the time of release of financial assurance under 61XX.0230.

619 Subp 2. **Requirements.** The annual report must include items A through H.

- 620 A. The name and mailing address of the operator.
- 621 B. Location of the mine area with permit number and parcel identification number if available.
- 622 C. The acreage currently affected by silica sand mining and not yet reclaimed.
- 623 D. The amount of acreage that has been reclaimed to date on a permanent basis and the
624 amount reclaimed on a temporary basis.
- 625 E. A plan, map or diagram accurately showing the acreage described in subdivision D and E.

- 626 F. Updated financial assurance describing the cost estimate if operations were to close in the
627 upcoming year.
- 628 G. A certificate issued by an insurance company authorized to do business in the United States
629 that the operator has a public liability insurance policy in force for the mining operation for
630 which the reclamation plan approval is sought, or evidence that the operator has satisfied
631 other state or federal self-insurance requirements, to provide personal injury and property
632 damage protection in an amount adequate to compensate any persons who might be
633 damaged as a result of the mining operation or any reclamation or restoration operations
634 connected with the mining operation.
- 635 H. The following certification, signed by the operator: "I certify that this information is true
636 and accurate, and that the mine area described herein complies with all conditions of the
637 applicable silica sand reclamation plan approval and Chapter 61XX, Minnesota Rules.

638 Subp. 3. **Submission.** The annual report must be submitted by a date specified by the regulatory
639 authority.

640 Subp 4. **Alternative report.** A regulatory authority may, at its discretion, obtain the information
641 required in **subp. 2** for a calendar year by written documentation of its inspections of a silica sand
642 mining site. If the regulatory authority obtains and documents the required information, the annual
643 report need not be submitted by the operator. If the regulatory authority determines that the operator
644 need not submit an annual report under this subsection, the regulatory authority shall advise the
645 operator in writing at least 30 days before the end of the applicable calendar year. In that case, the
646 regulatory authority shall require the operator to submit the certification required in **subp. 2, items F
647 and G.**

648 Subp 5. **Records.** A regulatory authority shall retain annual reports required by **subp. 2** or
649 equivalent records as provided in **subp. 4** for 10 years after they are submitted, and shall make them
650 available upon request by the public.

651 **61XX.0240 CRITERIA FOR SUCCESSFUL COMPLETION OF RECLAMATION.**

652 Subpart 1. **Goal.** The criteria for assessing when reclamation is complete and, therefore, when the
653 financial assurance may be released, shall be specified in the reclamation plan and approved by the
654 regulatory authority. Reclamation criteria shall be specified in one, three, and five year increments.

655 Subp 2. **Upland requirements.** After five growing seasons following revegetation, a 90 percent
656 cover consisting of living vegetation and its litter, must exist on all areas. No more than 10 percent
657 cover of invasive, non-native vegetation is allowed.

658 Subp 3. **Wetland requirements.** After five growing seasons following revegetation, a 70 percent
659 cover consisting of native grasses, sedges and forbs. No more than 10 percent cover of invasive, non-
660 native vegetation is allowed.

661 Subp 4. **Comparisons.** If required by the regulatory authority, the operator shall obtain baseline
662 data on the existing plant community for use in the evaluation of reclamation success. Revegetation
663 success may be determined by the following comparisons:

- 664 A. to an appropriate reference area;
- 665 B. to baseline data acquired at the mining site prior to its being affected by mining; or
- 666 C. to an approved alternate technical standard.

667 **61XX.0250 POST-CLOSURE MAINTENANCE.**

668 During the period of the site reclamation, after the operator has stated that reclamation is complete
669 but prior to release of finance assurance, the operator shall perform any maintenance necessary to
670 prevent erosion, sedimentation or environmental pollution, comply with the standards of **61XX.0100**
671 through **61XX.0150**, or to meet the goals specified in the reclamation plan.

672 **61XX.0260 CORRECTIVE ACTIONS.**

673 Subpart 1. **Goal.** On the observation of violations of the permit to mine, immediate actions shall
674 be taken to correct the violation.

675 Subp. 2. **Requirements.** Corrective action requirements include those in items A to D.

676 A. When the operator is aware that the reclamation requirements of parts **61XX.0200** and
677 **61XX.0240** are not being met, the operator shall immediately notify the regulatory
678 authority.

679 B. On notification or observation of violations of parts **61XX.0100** through **61XX.0410**, the
680 regulatory authority shall order the operator to:

681 (1) immediately take corrective action, or

682 (2) submit, within two weeks, a corrective action plan for approval before the operator
683 implements corrective action that includes:

684 (a) cause for failure to comply;

685 (b) methods, sequence, and schedule of corrective action activities that will result in
686 compliance

- 687 (c) corrective action cost estimates, and
- 688 (d) maps and cross sections at an appropriate scale.

689 C. If there is an immediate threat to human safety or natural resources resulting from the
690 mining operation, the operator shall take immediate corrective action and report to the
691 regulatory authority.

692 D. The regulatory authority may take one or more of the following actions if the operator fails
693 to comply with any portion of this part:

- 694 (1) suspend or revoke the reclamation plan under part [61XX.0360](#).
- 695 (2) modify the reclamation plan under part [61XX.0350](#).

696 ADMINISTRATIVE PROCESSES

697 **61XX.0300 RECLAMATION PLAN SUBMISSION.**

698 Subpart 1. **Purpose.** The purpose of this section is to establish requirements and procedures for the
699 processing a complete submission and administration of silica sand reclamation plans.

700 Subp. 2. **Decision.** The regulatory authority shall approve, approve conditionally, or deny a
701 reclamation plan under [61XX.0310 through 61XX.0430](#).

702 **61XX.0310 PUBLIC NOTICE.**

703 Subpart 1. **Notice.** A regulatory authority that has received and determined that the reclamation
704 plan application meets the requirements of [61XX.0100](#) through [XXXX.0260](#) shall publish a public notice
705 of the application in a qualified newspaper under Minnesota Statutes, section [331A.02](#) that is
706 circulated in the locality of the proposed mining operation no later than 30 days after receipt of a
707 complete reclamation plan. The notice must contain items A through E.

- 708 A. A brief description of the mining and reclamation planned at the mine area.
- 709 B. Location or map of the mine area.
- 710 C. Mine ownership and operator contact information.
- 711 D. Mention the opportunity for public meeting under this section.
- 712 E. The locations at which the public may review the reclamation plan request and all
713 supporting materials.
- 714 F. A notice of the deadline date and contact information for filing objections.

715 Subp. 2. **Local Meeting.** A regulatory authority shall provide for the opportunity for a public
716 informational meeting on an application or request to approve a mine reclamation plan as follows:

717 A. if there is meeting on the local permit to mine for the mine area, the regulatory authority
718 shall provide an opportunity at this meeting to present testimony on reclamation related
719 matters. This opportunity must fulfill the requirement for public meeting for a silica sand
720 reclamation plan required by this section. The regulatory authority shall consider the
721 reclamation-related testimony in the local permit to mine meeting in deciding on the
722 adequacy of a reclamation plan; or

723 B. if there is no opportunity for a local permit to mine for the mine area as described in item A,
724 an opportunity for public meeting required by this section must be provided as follows. Any
725 person residing within, owning property within, or whose principle place of business is
726 within 1000 feet of the boundary of the parcel or parcels of land in which the mine area is
727 located or proposed may request a public informational meeting within 30 days of the
728 actual date of public notice under **subp. 1**. This public meeting must be conducted as an
729 information meeting for the purpose of explaining and receiving comment from affected
730 persons on the nature, feasibility and effects of the proposed reclamation.

731 **61XX.0320 COMMENTS.**

732 Subpart 1. **Filing.** Comments related to a proposed reclamation plan application may be filed with
733 the regulatory authority no later than 45 days following the notice of publication.

734 Subp. 2. **Comment statement.** A person submitting an objection statement to the regulating
735 authority shall include the following information in items A through C.

736 A. A statement of the person's interest in the proposed reclamation plan;

737 B. A statement of the action that the person wants the regulatory authority to take, including
738 specific references to the plan or application; and

739 C. The reasons supporting the person's position, stated with sufficient specificity to allow the
740 regulatory authority to investigate the merits of the person's position.

741 Subp. 3. **Considerations.** All comments must be considered by the approved authority.

742 **61XX.0330 DETERMINATION.**

743 Subpart 1. **Issuance.** Unless denied under **61XX.0340**, the regulatory authority shall approve in
744 writing the reclamation plan submitted under **61XX.0200** for a proposed silica sand mining project. The
745 decision must be made no later than 120 days following receipt of the complete reclamation plan that

746 meets the requirements of 61XX.0210 through 61XX.0220, unless a public meeting is held under
747 61XX.0310 subp 2.

748 Subp. 2. **Conditions.** The regulatory authority may approve a reclamation plan subject to
749 general or site-specific conditions if needed to assure compliance with the reclamation requirements
750 of this chapter. One required condition of the approved reclamation plan must be that the mine
751 obtains financial assurance under 61XX.0220 prior to construction or disturbance under this plan.

752 Subp. 3. **Multiple jurisdictions.** If more than one regulatory authority has jurisdiction over a single
753 mine area, the regulatory authorities shall cooperatively issue a single approval for the reclamation
754 plan.

755 **61XX.0340 DENIAL.**

756 Subpart 1. **Authority.** The denial of a reclamation plan must be made in writing no later than 120
757 days following the receipt of the complete reclamation plan. The denial must contain documentation
758 and a findings of fact with reasons for denial.

759 Subp. 2. **Grounds for denial.** A reclamation plan must be denied if the regulatory authority finds
760 any of the following:

- 761 A. The proposed mine area cannot be reclaimed in compliance with the reclamation standards
762 of 61XX.0100 through 61XX.0170 or the applicable local land use ordinance.
- 763 B. The applicant, or its agent, principal or predecessor has, during the course of silica sand
764 mining in Minnesota, within 10 years of the plan application or modification request being
765 considered, shown a pattern of serious violations of this chapter or of federal, state or local
766 environmental laws related to silica sand reclamation. The regulatory authority may
767 consider the following:
- 768 1. results of judicial or administrative proceedings involving the operator or its agent,
769 principal, or predecessor.
 - 770 2. suspensions or revocations of silica sand mining permits or reclamation plans.
 - 771 3. forfeiture of financial assurance.

772 **61XX.0350 MODIFICATION.**

773 Subpart 1. **Modification by regulatory authority.** A regulatory authority may order the modification
774 of a reclamation plan when the regulatory authority determines that:

- 775 A. it is necessary to correct conditions that jeopardize public health or safety or that could
776 result in injury to persons or property;
- 777 B. because of changing conditions, the silica sand mining area is no longer in compliance with
778 the reclamation plan or parts 61XX.0100 through 61XX.0260.
- 779 C. new information related to reclamation becomes available that needs to be addressed and
780 incorporated into the reclamation plan.

781 Subp. 2. **Modification by the operator.** If an operator desires to modify a silica sand reclamation
782 plan, the operator shall submit an application to modify the plan to the regulatory authority. The
783 application must be subject to the requirements of this chapter. The regulatory authority shall make a
784 determination if the modification constitutes a substantial change from the reclamation plan.

785 Subp. 3. **Determination.** If the regulatory authority determines a substantial change would occur,
786 the regulatory authority can require the submittal of all or a portion of the requirements in 61XX.0100
787 through 61XX.0260 and follow proceedings specified in 61XX.0310 through 61XX.0330.

788 61XX.0360 SUSPENSION OR REVOCATION.

789 Subpart 1. **Grounds.** A regulatory authority may suspend or revoke a reclamation plan issued under
790 this chapter if it finds that the operator has done any of the following:

- 791 A. failed to submit a satisfactory annual report within the time frames specified in this
792 subchapter;
- 793 B. failed to submit or maintain financial assurance as required by this chapter;
- 794 C. failed to comply with corrective actions; or
- 795 D. failed on a repetitive and significant basis to follow the approved reclamation plan.

796 Subp. 2. **Suspension.** If the regulatory authority makes any of the findings in subpart 1, the
797 regulatory may suspend a reclamation plan. During the time of suspension, the operator may not
798 conduct mining at the site, except for reclamation or measures to protect human health and the
799 environment as ordered by the regulatory authority. Operator must maintain financial assurance under
800 61XX.0220.

801 Subp. 3. **Revocation.** If a regulatory authority makes any of the findings in subpart 1, the regulatory
802 authority may revoke its silica sand reclamation plan approval. Upon revocation, the operator shall
803 forfeit the financial assurance it has provided under 61XX.0220 to the regulatory authority. The
804 regulatory authority may use forfeited financial assurance to reclaim the site to the extent needed to
805 comply with this chapter.

806 **61XX.0370 ALTERNATIVE REQUIREMENT APPROVALS.**

807 Subpart 1. **Criteria.** A regulatory authority may approve an alternate requirement to the
808 reclamation standards established in this chapter if the operator demonstrates and the regulatory
809 authority finds the criteria A through C are met.

810 A. The silica sand mining site, the surrounding property, the mining plan, or reclamation plan
811 has a unique characteristic which requires an alternate requirement.

812 B. Unnecessary hardship which is peculiar to the silica sand mining site or plan will result
813 unless the alternate requirement is approved.

814 C. Reclamation in accordance with the proposed alternate requirement will achieve the
815 planned post-mining land use and long term site stability in a manner that will not cause
816 environmental pollution or threaten public health, safety or welfare.

817 Subp 2. **Procedures.**

818 A. An operator who requests an alternate requirement shall submit the request in writing as
819 required in the applicable local land use ordinance.

820 B. If the regulatory authority is a county or municipality, the alternate requirement must be
821 approved or disapproved as provided in the applicable local land use ordinance. Approval or
822 disapproval must be in writing and must contain documentation of the reasons why the
823 alternate requirement was or was not approved.

824 C. A request for an alternate requirement may be incorporated as part of an application to
825 issue or modify a silica sand reclamation plan.

826 D. An applicable reclamation ordinance may provide opportunity for public informational
827 meeting under this subchapter prior to the regulatory authority's action on a request for an
828 alternate requirement.

829 **61XX.0380 TRANSFERS.**

830 A new operator may apply for a transfer of an approved reclamation plan upon submittal to the
831 regulatory authority the information under **61XX.0200 items A through I**. The previous operator shall
832 maintain financial assurance until the new operator has received approval and provided the financial
833 assurance under this section. The transfer is not valid until meeting all of the following criteria:

834 (1) the new operator submits financial assurance under **61XX.0220**;

835 (2) the regulatory authority accepts the financial assurance; and

836 (3) the regulatory authority determines compliance with all conditions of the approved
837 reclamation plan.

838 **61XX.0390 CHANGE OF REGULATORY AUTHORITY.**

839 If there is a change of regulatory authority for a mine area, the approved reclamation plan must remain
840 in effect and be enforceable until the plan is modified by the new regulatory authority.

841 **61XX.0400 REVIEW OF DECISION.**

842 Any persons who meet the requirements of **XXXX.0000**, may request a contested case meeting
843 under **XXXX.0000**, on a county or municipal regulatory authority's decision to approve, deny or modify
844 a silica sand reclamation plan. *STILL IN DEVELOPMENT*

845 **61XX.0410 NOTICE OF COMPLETION.**

846 Subpart 1. **Request.** The operator shall submit to the regulatory authority a request to be
847 released from an approved reclamation plan. The request must include items A through C.

- 848 A. A declaration by the operator of how each portion of the mine area for which a release is
849 requested has been made to comply with the requirements of parts **61XX.0100** to
850 **61XX.0260** and the conditions placed within the local permit to mine.
- 851 B. Identification of the ownership of the mine area.
- 852 C. A map that prepared by a qualified professional that shows the following:
- 853 (1) the location and status of all mining land forms and facilities created or used during the
854 mining operation;
- 855 (2) the areas for which the release is being requested;
- 856 (3) location of open and sealed water wells;
- 857 (4) the areas on which postclosure maintenance is being conducted;
- 858 (5) the final topography of all mining land forms;
- 859 (6) the location, type, extent, percent coverage of vegetation that has been established;
- 860 (7) the existing and ultimate anticipated level of groundwater;
- 861 (8) the locations of safe access points of any constructed water body;

- 862 (9) if applicable, the location of all sealed access points to underground mine workings;
- 863 (10) the location of any approved highwalls or gradients that exceed a 3:1 horizontal to
864 vertical slopes; and
- 865 (11) other tests or borings specified by regulatory authority within the approved
866 reclamation plan.

867 **61XX.0420 RELEASE OF FINANCIAL ASSURANCE.**

868 Subpart 1. **Notification.** The operator shall apply to the regulatory authority for the release of
869 financial assurance, by filing a notice of completion under **61XX.0410**, at the time the operator
870 determines that reclamation of any portion of the mine area, corrective action, or entire mine area
871 satisfies all terms and conditions of parts **61XX.0100** to **61XX.0260**.

872 Subp. 2. **Determination of completeness.** The regulatory authority shall inspect the mine area or
873 portion thereof that was the subject of the notice of completion to make a determination of
874 completion using criteria under **61XX.0240**. The regulatory authority, in evaluating reclamation
875 completion, shall use individuals with documented experience in the analysis. The reasonable cost of
876 the evaluation must be paid by the applicant. The regulatory authority shall make a determination
877 under this subsection that:

- 878 A. Reclamation is not yet complete;
- 879 B. It is not possible to assess whether reclamation is complete due to weather conditions,
880 snow cover or other relevant factors;
- 881 C. Reclamation is fully complete and conditions necessitating postclosure maintenance no
882 longer exist and are unlikely to recur;
- 883 D. Corrective actions have been successfully accomplished.

884 Subp 3. **Release.** The regulatory authority shall release the operator from the responsibility to maintain
885 financial assurance within 90 days of a determination of completion under in **subp 2. C or D**; unless the
886 determination for release is challenged in a legal proceeding.

887 **61XX.0430 REGULATORY AUTHORITY RIGHT OF INSPECTION**

888 Subpart 1. **Access.** No person may refuse entry or access onto a mine area of a duly authorized
889 office, employee, or agent of the regulatory authority who presents appropriate credentials to inspect
890 the site for compliance with silica sand reclamation plan required by **61XX.0100** through **61XX.0260**.

891 Subp. 2. **Inspector requirements.** Any person who enters the site under this right of inspection shall
892 obtain training and provide their own safety equipment needed to comply with any federal, state, or
893 local laws or regulations controlling persons in the silica sand mining area.

894 Subp. 3. **Records.** If requested, the regulatory authority shall furnish to the operator a written
895 report of its inspection under this section, setting forth all relevant observations, information, and data
896 which relate to the mine area's compliance status under this chapter.

DRAFT

VISITOR TEMPORARY ENTRANCE

Minnesota Pollution Control Agency
Board of Water and Soil Resources



VISITOR PARKING MAP

Minnesota Pollution Control Agency
Board of Water and Soil Resources

